

Scaffolding Collaborative Project Work

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Abstract

A Computer Club House (CCH) can be understood as a community of prosumers in which members are producing and consuming personally meaningful artifacts of each other. In a long term case study, we have analyzed learning practices in a German CCH setting. Observing children and their parents working with artifact construction kits, we found that they had problems in maintaining the flow of their project work over time. Therefore, we develop concepts for a project management tool which support CCH settings to scaffold their growing information space in terms of artifact re-use and expertise development over time. Scaffolding in this regard is understood to support collaborative processes of learning communities.

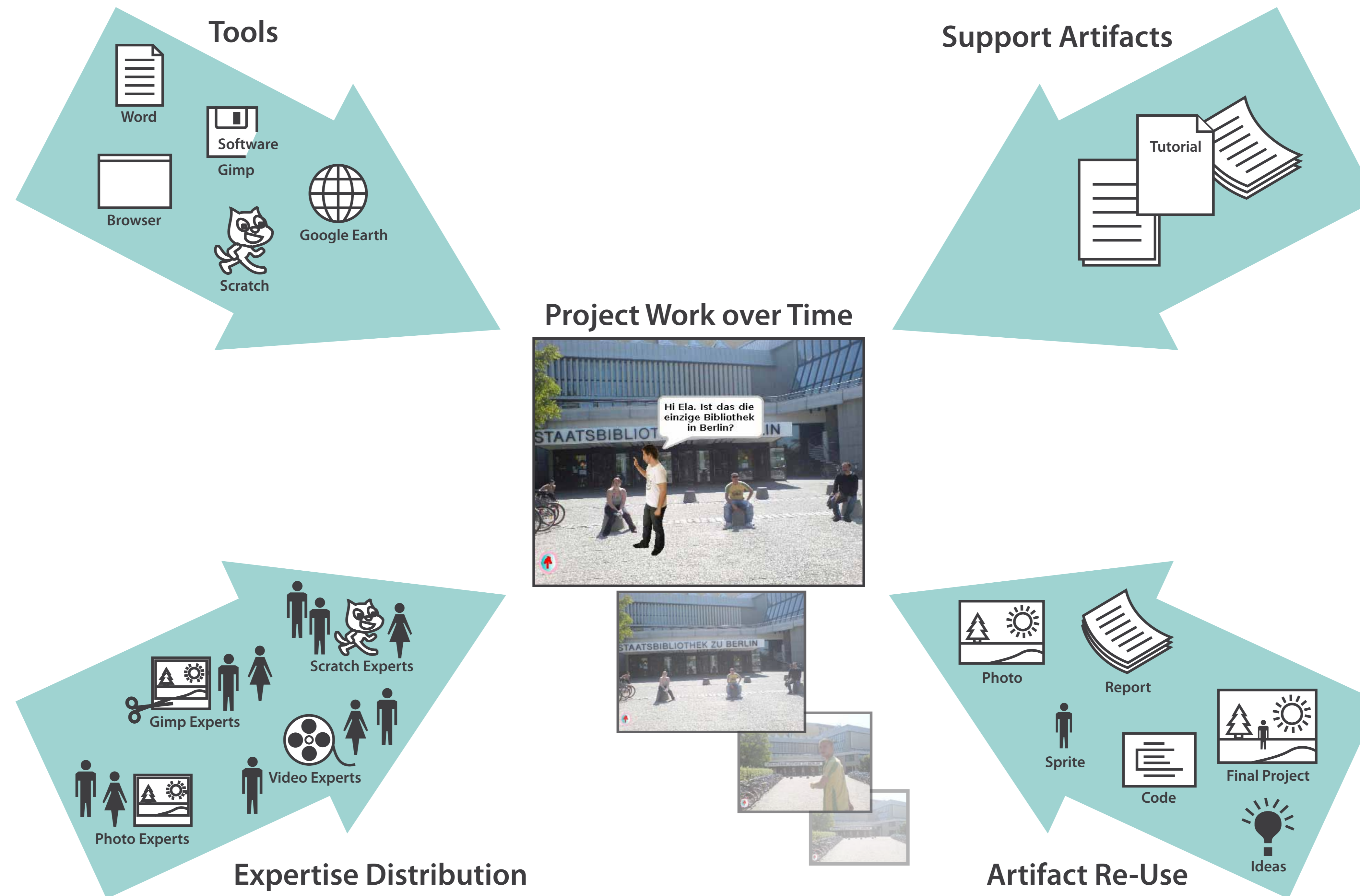


Figure 1. Conceptual view of scaffolded collaborative project work.

1. Setting and Methodology

come_IN, an inter-cultural computer club in a German elementary school, provides opportunities for children, parents, and tutors to engage in project work with the active production and consumption of collaboratively created, personally meaningful artifacts. The project work within the club stems from the participants' maps of experience. Projects normally last for several months and encompass the programmatic creation of varied multi-media artifacts. Over the course of six months, we conducted participatory action research by implementing ourselves as tutors in the club, collecting information through field notes, observations, interviews, and video and artifact analysis.

2. Empirical Findings

Projects remain incomplete and need intense tutorial support

- No re-use or inspiration from prior projects or artifacts
- Little involvement of participants in planning phase
- Little integration of parents in execution phase
- Problems with the retrieval of recently used artifacts
- Extremely high tutoring demand in all phases of project work



Figure 2. Tutor planning alone. Mother sitting next to her son, uninformed.

3. Design Implications

Building a project management tool for artifact re-use and visualization of expertise distribution in projects over time.

- Supporting participants in all phases of their activities
- Visualization of related (own and others') artifacts in context
- Offering additional supportive artifacts in context
- Visualization of expertise distribution in context
- Tailorable to participants' needs and realm of experience



Figure 3. Mock-up of the proposed project management tool in artifact and expert discovery mode (above) and actual construction use (right).

4. Conclusion

By scaffolding collaborative project work, we propose a transition from designing single construction kits to whole frameworks supporting project work over time. Currently, the system is being implemented and needs evaluation afterwards.

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