Fab Labs and Interdisciplinary Academic Teaching: A research agenda
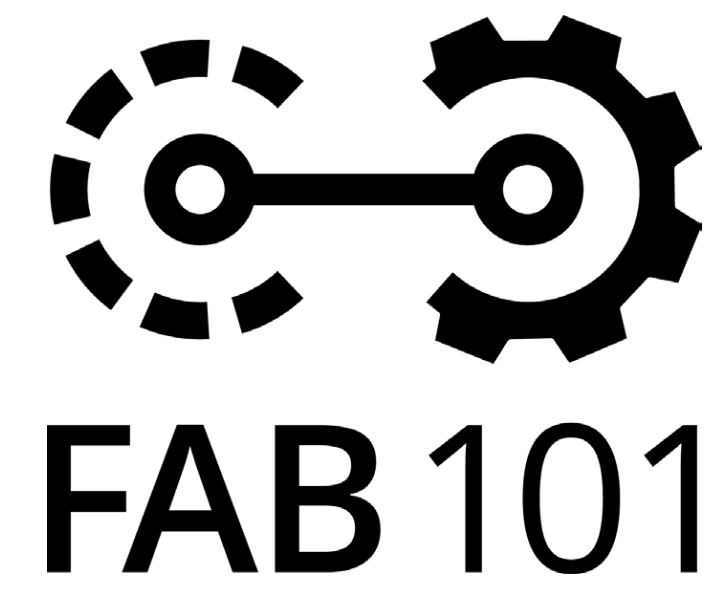
ABSTRACT

This contribution summarizes the agenda and some first results of a currently running three-year research project on the integration of Fab Labs in four German universities.

We hope to encourage input and discussion, especially as to potential research foci, methodological critique as well as experiences with Fab Labs in academia.

Project areas

- Maker culture, innovation and academic learning/teaching cultures
- Cooperation across disciplines and academic institutions
- Project-/action-orienteted teaching

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Goals

- Developing new teaching concepts and training modules
- Help build a cooperative, real-world research infrastructure of Fab Labs
- Policy & Governance templates and recommendations

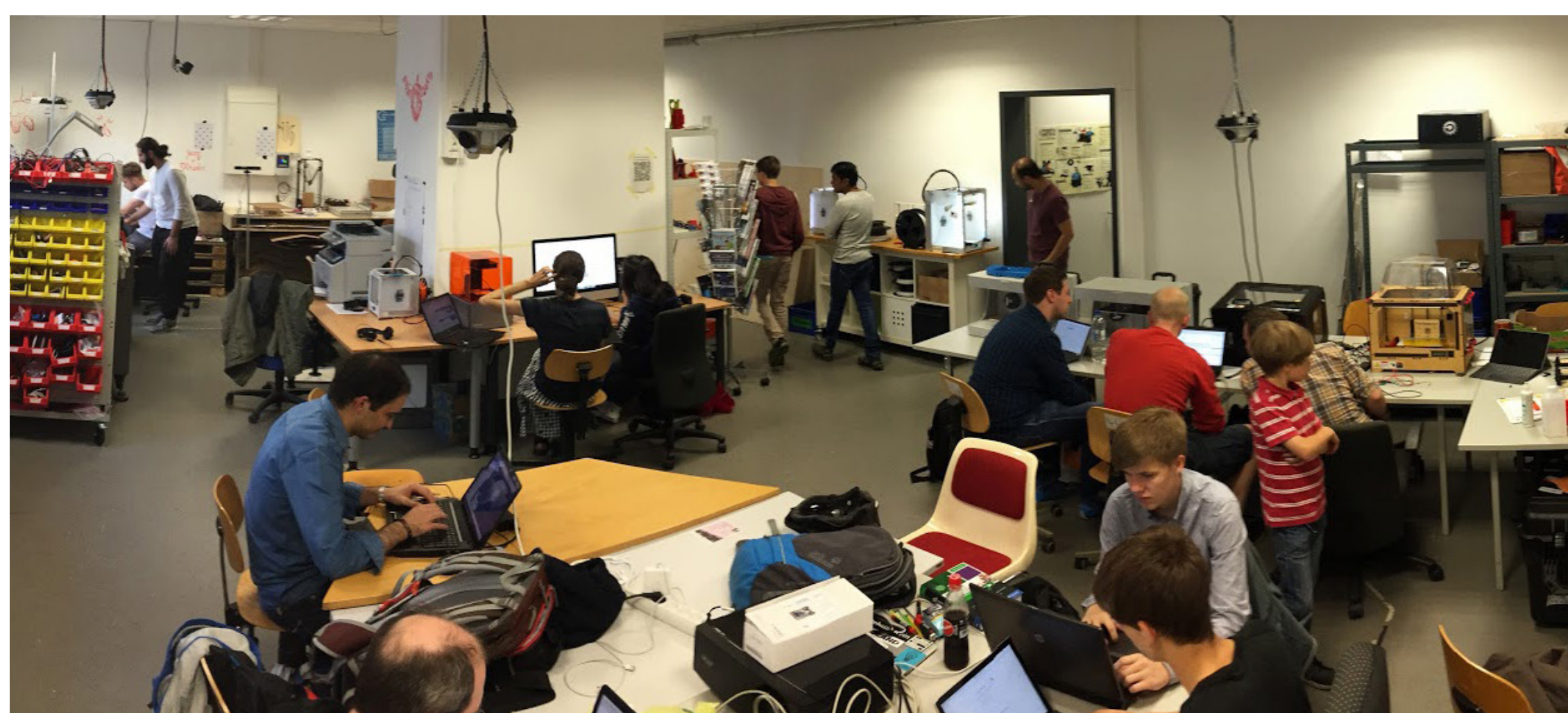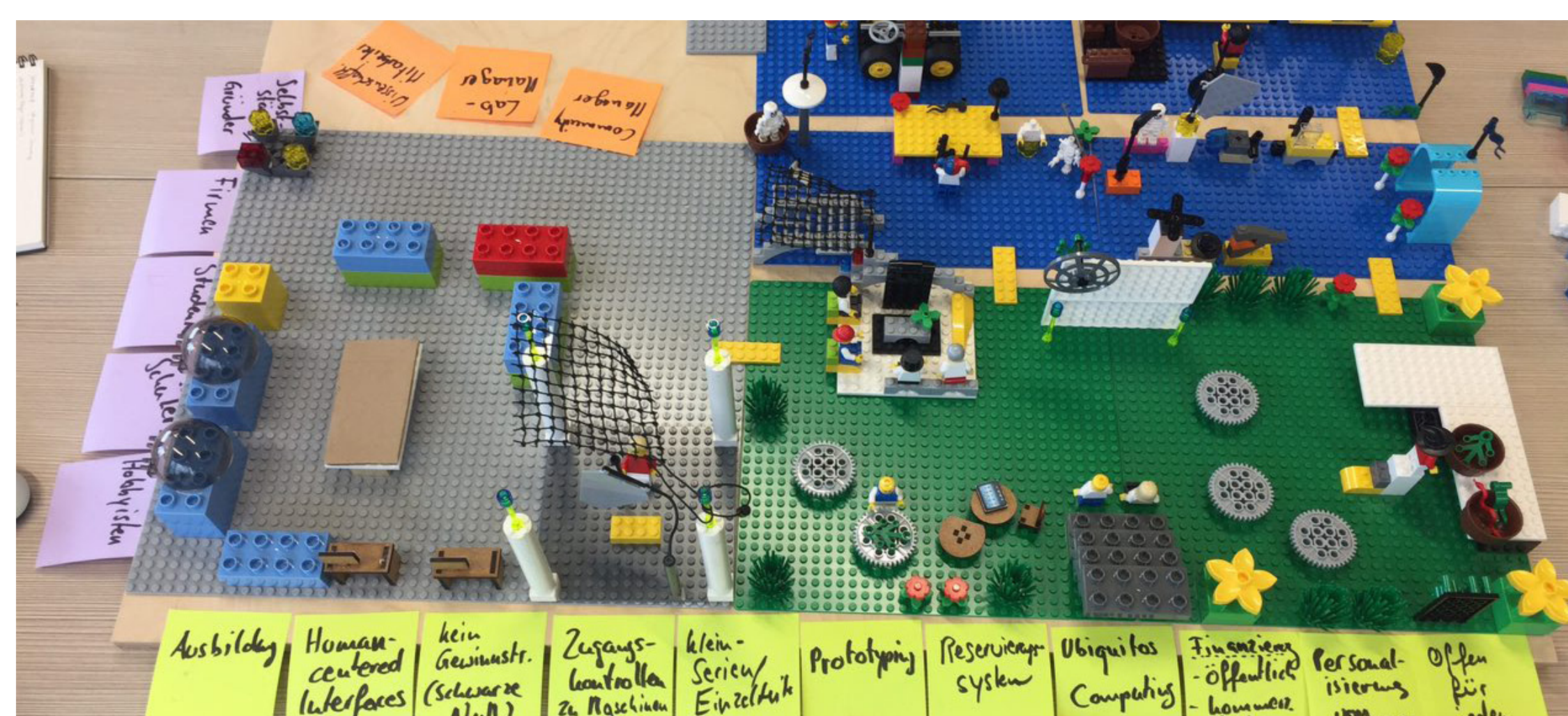| Cooperation	Tools	Education	Infrastructure
UNIVERSITÄT SIEGEN	**RWTH AACHEN UNIVERSITY**	**Universität Bremen**	**Folkwang Universität der Künste**
HCI & Business Informatics	Computer Science	Teacher Training & Education	(Industrial) Design

INTRODUCTION & METHOD

- **Interdisciplinarity:** Four very different universities, research groups & Labs.
- **Action-oriented research:** Development & Evaluatiown of teaching concepts in practice.
- **Meta-perspective from CSCW:** Design of complex socio-economic systems as inspiration for managing & governing a Fab Lab.

- Four research Foci (**Cooperation, Tools, Education, Infrastructure.** See Diagram)

FIRST RESULTS

- **Formal & Legal:** Partly unclear regulations, legal / insurance / organizational issues.
- **„Basics lecture":** All Labs need intro to machines & infrastructure.
- **Regionality:** Global Fab Standards vs. local context & needs.
- **Sharing:** Documentation & Sharing as value / goal but often hard to implement, sustain & support.
- **Openness:** „Democratic" access to university labs has legal, financial & practical issues.

Fab Lab Siegen, typical scene during open lab hours. Mixed community.

Brainstorming of future Fab Lab infrastructure (workshop for all German Fab Labs in 2017)

Example for an ICT support system: Machine access control, made in a Fab Lab for a Fab Lab.

Participatory idea development for a „basics lecture" with different lab managers.

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