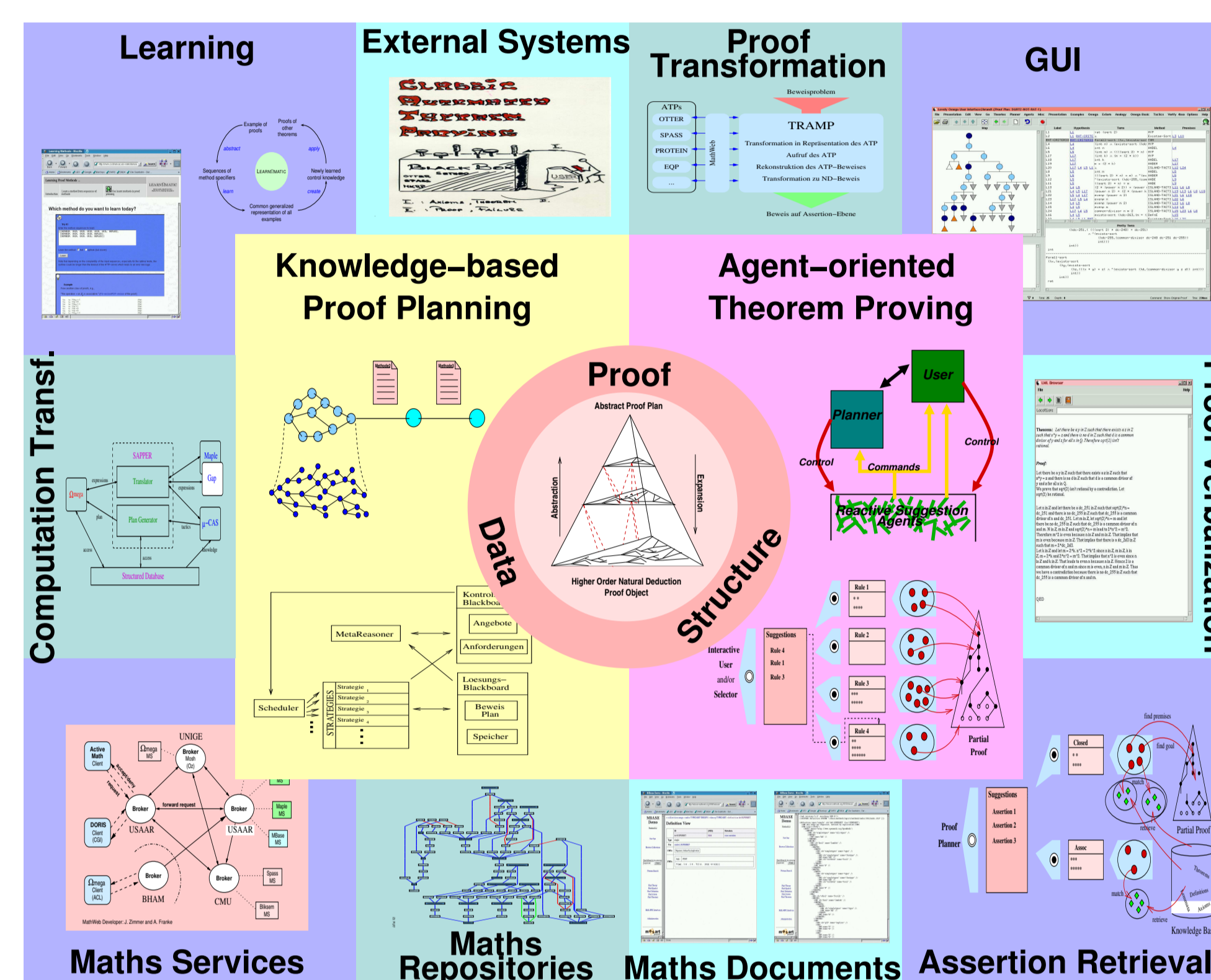


Summary of the Project

The goal of the OMEGA Project is to develop a mathematical assistant environment that supports a faithful teamwork between human and computer in typical mathematical tasks such as problem solving, mathematical theory development, mathematics tutoring, and mathematical publication.

The problem: the discrepancy between the representation and reasoning granularity of humans and the mathematical support tools.

The goal: to reduce the gap by human-oriented abstract level reasoning and support tools to adapt the system to the communication level of a mathematician.



The major means to raise the abstraction level in computer supported mathematics are:

- knowledge-based proof planning,
- pro-active agent-based reasoning, and
- abstract-level calculi and interaction interfaces.

The work tasks:

- direct support for assertion-level proof development,
- the maintenance and dynamic sampling of mathematical knowledge, and
- the assistance in preparing mathematical publications and technical support for tutoring tools.

Researchers

University Funding

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DFG Funding

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International Collaboration (with joint publications)

Yale University, USA (Schürmann); Carnegie Mellon University, Pittsburgh, USA (Brown); University of Miami, USA (Sutcliffe); The University of Edinburgh, UK (Dennis, Bundy); The University of Birmingham, UK (Kerber, Sorge); Imperial College London, UK (Colton); Eindhoven Technical University, Netherlands (Cohen); Cambridge University, UK (Jamnik); International University of Bremen, Germany (Kohlhase); University of Kaiserslautern, Germany (Avenhaus, Madlener); Technical University Munich, Germany (Schulz); EU Research Training Network CALCULEMUS.

Presentation of the Project

Building 43.8, DFKI, Foyer

Status within the SFB

Continuation of Project MI4 OMEGA