

The SymbolicData Project – a Community Driven Project for Computer Algebra

Hans-Gert Gräbe

Leipzig University, Germany

<http://bis.informatik.uni-leipzig.de/HansGertGraebe>

ACA-2016, Kassel, August 1, 2016

Preliminary Remarks

This talk (and all the session) is about Computer Algebra,

- but *not* about algorithms,
- not even about research at all,
- but **about research infrastructure**.

Digital change – the Big Challenge:

*Turn the **hyperlinked** Digital Universe into an
interlinked one – the Semantic Web.*

The **interlinked Digital Universe** can be viewed as a single
(distributed) global database.

Preliminary Remarks

What does it mean?

The pessimist's version: We loose all control, no more privacy. All my real world social relations and activities have to be exposed and become visible in the web. Even today they are yet explored by Google, Facebook and WhatsApp.

The optimist's version: Let's control the loss. Use appropriate means of the web to actively shape virtual visibility of your social relations and activities. Since only **real world** social relations and activities matter.

The latter requires individual engagement *and* cooperative efforts. This talk is about cooperative efforts.

The SymbolicData Project

The SymbolicData Project is on such a way since 1998, i.e., for a long time, and tries to secure a part of a common research data infrastructure within Computer Algebra.

- SymbolicData is a small volunteers' project (intentionally) without own funding.
- We acknowledge support from different players within the CA community at different time, in particular from the board of the German Fachgruppe, and also from a small project within the Saxonian E-Science Initiative.

The SymbolicData Project

The SymbolicData Project had different focuses over the time:

Version 1 (1999–2002): Secure uniform digital open access to research data about Polynomial Systems collected within the PoSSo (1992–1995) and FRISCO (1996–1999) EU funded projects.

Develop concepts and tools for certified benchmarks on that data.

Version 2 (2006–2013): Transform SymbolicData concepts and data to the evolving RDF based concepts, standards, protocols, and tools of the Semantic Web.

The SymbolicData Project

Version 3 (since 2013): Provide fingerprints of other collections of CA research data, in particular polytopes within the *polymake* project, examples from the *normaliz* collection and the *database of transitive groups* (Klüners, Malle).

First steps towards the RDF basics of a *CA Social Network*, in particular to unify information processes reflected in the web portal of the German Fachgruppe.

And now lets go to

<http://wiki.symbolicdata.org/Events.2016-08.Graebe>