Hands-On Introduction to Nominal Isabelle

One-Day Tutorial at IJCAR'08 in Sydney

Time: 11th August (just before IJCAR)

Overview: Dealing with binders, renaming of bound variables, capture-avoiding substitution, etc., is very often a major problem in formal proofs about the lambda-calculus and programming language theory. Nominal Isabelle provides an infrastructure for reasoning conveniently about bound variables and alpha-equivalence classes in the proof assistant Isabelle. The aim of the tutorial is to give participants a reading knowledge of nominal techniques and allow them to start using Isabelle in their own work. The tutorial will be hands-on and therefore participants are encouraged to bring their own laptop.

Programme:

Session I:	basics, alpha-equivalence classes, substitution lemma, Isar proof language
Session II:	strong induction principles, contexts with holes, beta-reduction
Session III:	variable convention, evaluation relation
Session IV:	functions, permutations and support

Target audience: Researchers and doctoral students who want to use Nominal Isabelle to formalise proofs from the lambda-calculus, from programming language theory or from proof theory, such as type soundness, Church Rosser, strong normalisation and so on. The tutorial is designed for people who have not necessarily used Isabelle before, nor have used any other proof assistant.

More Information: See `http://isabelle.in.tum.de/nominal/`