



NEP: A Programming Environment for Concurrent Constraints

```
fun {MakeNode I VDom}
  eg = {FS.var.upperBound VDom}
  ...
end
```

Internet Programming

```
proc {Equal N1 N2} N1=N2 end
proc {NotEqual N1 N2}
  {FS.disjoint N1.eq N2.eq}
end
proc {StrictlyDominates N1 N2}
  {Dominates N1 N2}
  {NotEqual N1 N2}
end
proc {NotStrictlyDominates N1 N2}
```

Concurrent Constraints

alle männer laufen
peter ist ein mann

peter läuft

Inference for Natural Language

A Search Tree in Oz

```
{FS.partition (map L fun {? D} D.egdown end) N.down}
{ForAll L, proc {? D} D.up=N.egup end}
```

The NEP project develops innovative programming technology which supports – and in some cases enables – novel applications in cognitive modelling. In the Collaborative Research Center (Sonderforschungsbereich, SFB) 378 this technology is successfully employed in several projects:

- In natural language processing, the projects CHORUS, NEGRA and LISA tackle computational challenges unsolvable by traditional methods.
- In the area of theorem proving, the OMEGA group is building a system which allows for the connection of inference engines to mathematical knowledge bases reachable via the internet.

The programming language Oz serves as a foundation to these and other visionary research projects. The development of Oz has been started in Saarbrücken in 1991. Since then, the language has evolved rapidly. It is currently being supported by the Mozart group which joins 5 competent partners throughout Europe. Among them are the project NEP of SFB 378, the German Research Center for Artificial Intelligence (DFKI), the Swedish Institute of Computer Science, and the University of Louvain in Belgium. In January 1999, the Mozart group (www.mozart-oz.org) has released a new Oz system which combines AI and internet technology in a fashion unique worldwide.



Prof. Dr. Werner H. Tack
SFB 378 – der Sprecher
Universität des Saarlandes
Postfach 151150
D-66041 Saarbrücken

URL: <http://www.ps.uni-sb.de/Projects/nep.html>
Contact: Prof. Dr. Gert Smolka
Telephone: +49-681-302-5311
Telefax: +49-681-302-5615
email: smolka@ps.uni-sb.de