

Tao Zhang
The Past and Future of Unicon
Dr. Clinton Jeffery
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Summary:

As the hardware keeps changing and new problems domains keep emerging, researches have to be done to update the programming language so that it can meet user's requirements. The general unsolved problems are: How to make programming easier/faster, the portability which platform du jour, and how could make the extensibility easy. The same Unicon have.

Unicon is a very high level, goal-directed, object-oriented, general purpose applications language, which is the unified extended dialect of Icon. During the last 12 years, there are many Unicon researches done, including of: some personal motivations on 3D, networking, and virtual environments; NLM motivations on databases, "big text", speed, tools; AT&T Labs Research motivations on concurrency, C/C++ access.

And right now, recent researches done at UI have solved part of the problems. First of all, in order to best utilize modern hardware (concurrency), pthreads are in legacy VM implementation; avoid locking, especially the GIL; make the algorithm embarrassingly parallel to speed up. Then, researches find a better way to implement Icon's core expression evaluation, have the transformational code generator; use Java or Groovy via XSLT and XPath; boils generators and implicit backtracking down into Java Iterators. For the benchmarks, they rescaled Icon benchmark suite; identified areas for improvement; and keep on going work at Icon, Unicon -C, Junicon. Also, they have the goal to generate complete set of syntax error fragments from CFG. What's more, to make Unicon run well on Microsoft platforms, the port Unicon's OpenGL-based 3D facilities to DirectX, and developed a set 3D benchmarks.

For future Unicon, researches are going to be focused on implicit concurrency: generators, garbage collector, and GUI thread, and Junicon-inspired projects: Android port, and probably C/C++ access, which has more Dr. J didn't have time to mention.

In short, seems like Unicon is keeping doing good researches to solve old/new problems and become better to suit user's requirement.

Advice:

It would be better to narrow the speech and present.