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[/www.acm.org/pubs/toc/Abstracts/0001-0782/78977.html](http://www.acm.org/pubs/toc/Abstracts/0001-0782/78977.html). This paper presents skip lists, a list in which a node may have a pointer to a node some number of places ahead of it on the list. Such pointers, called “forward pointers”, therefore “skip” over intermediate nodes. A node with k forward pointers is said to be a *level k* node. Skip lists are probabilistic in that the level of a node is chosen randomly with the property that a node’s i th forward pointer points to the next node of level i or higher. It is shown that skip lists can efficiently implement abstract data types such as dictionaries and ordered lists in that the expected time to search for an item is $O(\log n)$.

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unpublished) followup study showed that many of the failures diagnosed in 1990 still had not been repaired in the commercial systems, and that the GNU implementations were generally more robust. Both 1990 and 1995 papers, and the fuzz-generating software, are available at the authors' FTP site at ftp://grilled.cs.wisc.edu/technical_papers/fuzz.ps and ftp://grilled.cs.wisc.edu/technical_papers/fuzz-revisited.ps.

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of PRIZ), an object-oriented environment.

Data elements in Utopist (attributes of objects) can be bound by both inter- and intra-object relations. These relations are used by a propositional theorem prover to generate a proof that it is possible to compute a certain datum given some other data. This (constructive) proof is used to synthesize a program which computes the datum. So PRIZ has a quite non-standard logic component: compile-time proof and program generation instead of run-time clause resolution. These technique are called Propositional Logic Programming and Structural Program Synthesis. NUT is a prototype-based (as opposed to class-based) language: any object can be used as a template (type) for a new object (and of course as a component of a new object). Limited polymorphism is supported through a generic type (**any**). It is notable that some of the modern programming paradigms (constraint programming, object-orientation, employing logic in computation) have been considered so early.

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