

DON DAILEY, 1956-2013

An Obituary
by Aske Plaat

On November 22, 2013, our colleague Don Dailey passed away. Don suffered from leukemia, and reached the age of 57. Don was many things, he was a kind man, honest, funny at times, but most of all, he was a chess programmer, a passion to which he devoted his life. Don was a *successful* chess programmer. However, in our profession success does not come easy. He worked long and hard, and dedicated years to improving his creations. He achieved his greatest success with his last program, KOMODO 6, that won the superfinal on TCEC mere days after his departure.

Don was born on March 10, 1956, in Kalamazoo, Michigan. He taught himself how to program the computer and he taught himself how to play chess. His first chess program was REX, originally written in Pascal, in 1985. Later he rewrote it in assembly, for a three-fold speed increase. He collaborated on REX first with Sam Sloan and then with Larry Kaufman. REX was further improved, notably with selective searching. REX was marketed as REXCHESS. In the early 1990s Don started to work with Julio Kaplan on a program that was first called HEURISTIC ALPHA, and later became known as SOCRATES. It was marketed as KASPAROV'S GAMBIT.

DON AT MIT

At the 1993 ACM Computer Chess tournament SOCRATES II won ahead of CRAY BLITZ, a PC beating a supercomputer. He met Bradley Kuszmaul and Charles Leiserson from MIT, who were competing with their program STARTECH. They probably wondered what the potential of SOCRATES on serious hardware would be, and they asked Don for his help in the development of a new massively parallel chess program. He began working at Leiserson's Supercomputing Technologies group on the new chess program, dividing his duties with system administration at the Lab for Computer Science.

The new program was called STARSOCRATES. It would make use of the group's newly developed parallel programming system Cilk, which came out of work by Leiserson and Kuszmaul on the Thinking Machines' Connection Machine 5. Don worked on STARSOCRATES at MIT with a group including PhD student Christopher Joerg. They competed in the 1995 World Computer Chess Championship in Shatin, Hong Kong. In the program description it is noted that STARSOCRATES ran on the 1824 node Intel Paragon parallel supercomputer at Sandia National Laboratories. The machine is described as being 50 feet long and weighing about 30,000 pounds. Size sometimes matters, STARSOCRATES reached top points, although the supercomputer finally lost a heavily watched play-off to FRITZ, running, again, on a mere PC.

Upon return to Boston they continued to develop the program, porting it to the latest SMP version of Cilk, using a new parallel Jamboree version of the search algorithm MTD(f), running on new hardware, a 256 processor Silicon Graphics Origin 2000 NUMA machine from NASA Ames. The evaluation function had been tuned with thousands of self play games. In 1996 the new program, called CILKCHESS, won the 1996 Dutch Open in Leiden, taking second in 1997 and 1998. At the 1999 World Computer Chess Championship in Paderborn they took fourth place in a field of 30 programs.

I met Don in 1996. We worked together for about a year, with Chris Joerg, Charles Leiserson, and others, on CILKCHESS. Attached are two photo's from those days, from the small party when we won the Dutch Open in 1996 in Leiden, when all were having a good time. Even then, Don talked about the importance of knowledge, which he believed to be more important than search. This was quite an interesting point of view to be held in a place where we worked on some of the biggest hardware available to chess programmers. Interesting also when taking into account that our nemesis in Hong Kong, FRITZ, focused on ultra-fast search. However, his later successes with knowledge-oriented KOMODO showed that he got it right after all.



“King” Don, wearing his crown after winning the 1996 Dutch Open.



F.l.t.r.: Charles Leiserson, Chris Joerg (with trophy), Don Dailey, and Aske Plaat.

DON AND LARRY

While at MIT Don also worked on the commercial COREL CHESS program, with Larry Kaufman. They competed with MINI in the Paderborn tournament, alongside the MIT program CILKCHESS.

His 2009/2010 programs DOCH and KOMODO were again a joint effort with Larry. These programs were very successful. KOMODO consistently rated in the top three on most major commercial chess rating lists. It heavily relies on evaluation rather than depth of search, and thus has a distinctive positional style. Its forte is to play when there is nothing to play. Dailey described it as follows: "In positions that most engines would likely struggle or find it impossible to make progress, KOMODO quietly prepares a break and ends up with the victory." KOMODO has played in the ICT 2010 in Leiden, and in the CCT12 and CCT14. In February of 2013 it won the CCT15 tournament. On 4 October 2013 Don announced that he suffered from acute leukemia. In TCEC Season 5, KOMODO won the superfinal against STOCKFISH. The authors of STOCKFISH respectfully renamed this version STOCKFISH DD, in honor of their opponent.

Don was friendly, always smiling and often joking. Chess programmers are competitive by nature. Don was also caring, and loved sharing knowledge. He talked about his ideas at championships, and contributed many posts to forums. He was a true member of our community. His sense of sharing contributed to our community; many of his ideas will live on. He will be sorely missed by our community. His work on KOMODO is continued by his long-time collaborator Larry Kaufman and Mark Lefler, who was introduced into the team shortly before Don's death.

Grandmaster Larry Kaufman published an obituary in which he remembers details about his work with Don. It can be accessed on the KOMODO website at <http://komodochess.com/store/pages.php?cmsid=10>.