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James Gosling

James Arthur Gosling, OC (born May 19, 1955) is a Canadian computer scientist, best known as the founder and lead designer behind the Java programming language.[3]

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Education and career

James Gosling received a Bachelor of Science from the University of Calgary [4] and his M.A. and Ph.D. from Carnegie Mellon University, all in computer science.[2][5][6] He wrote a version of Emacs called Gosling Emacs (Gosmacs) while working toward his doctorate. He built a multi-processor version of Unix for a 16-way computer system[7] while at Carnegie Mellon University, before joining Sun Microsystems. He also developed several compilers and mail systems there.

Gosling was with Sun Microsystems between 1984 and 2010 (26 years). He is known as the father of the Java programming language.[8][9] He got the idea for the Java VM while writing a program to port software from a PERQ by translating Perq Q-Code to VAX assembler and emulating the hardware. He left Sun Microsystems on April 2, 2010 after it was acquired by the Oracle Corporation,[8] citing reductions in pay, status, and decision-making ability, along with change of role and ethical challenges.[10] He has since taken a very critical stance towards Oracle in interviews, noting that "during the integration meetings between Sun and Oracle, where we were being grilled about the patent situation between Sun and Google, we could see the Oracle lawyer's eyes sparkle."[9] He clarified his position during the *Oracle v. Google* trial over Android: "While I have differences with Oracle, in this case, they are on the

James Gosling	
Born	James Gosling May 19, 1955 Near Calgary, Alberta, Canada
Nationality	Canadian
Alma mater	Carnegie Mellon University University of Calgary
Known for	Java (programming language)
Awards	Officer of the Order of Canada IEEE John von Neumann Medal The Economist Innovation Award
Scientific career	
Institutions	Sun Microsystems Oracle Corporation Google Liquid Robotics[1] Lightbend Amazon Web Services
Thesis	*Algebraic Constraints* (http://reports-archive.adm.cs.cmu.edu/anon/scan/CMU-CS-83-132.pdf) (1983)
Doctoral	Bob Sproull[2]

right. Google totally slimed Sun. We were all really   **advisor**
disturbed, even Jonathan Schwartz; he just decided to put
on a happy face and tried to turn lemons into lemonade, which annoyed a lot of folks on Sun."[11]
However, he approved of the court's ruling that APIs should not be copyrightable.[12]

In March 2011, Gosling left Oracle to work at Google.[13] Six months later, he followed his colleague Bill Vass and joined a startup called Liquid Robotics.[1] In late 2016, Liquid Robotics was acquired by Boeing.[14] Following the acquisition, Gosling left Liquid Robotics to work at Amazon Web Services as Distinguished Engineer in May 2017.[15]

He is an advisor at the Scala company Lightbend,[16] Independent Director at Jelastic,[17] and Strategic Advisor for Eucalyptus,[18] and is a board member of DIRTT Environmental Solutions.[19]

He is known for his love of proving "the unknown" and has noted that his favorite irrational number is $\sqrt{2}$. He has a framed picture of the first 1,000 digits of $\sqrt{2}$ in his office.[20]

Contributions

Gosling initially became known as the author of Gosling Emacs. He also invented an early Unix windowing system called NeWS, which became a lesser-used alternative to the still used X Window, because Sun did not give it an open source license. He is generally credited with having invented the Java programming language in 1994.[21][22][23] He created the original design of Java and implemented the language's original compiler and virtual machine.[24] Gosling traces the origins of the approach to his early graduate student days, when he created a p-code virtual machine for the lab's DEC VAX computer, so that his professor could run programs written in UCSD Pascal. In the work leading to Java at Sun, he saw that architecture-neutral execution for widely distributed programs could be achieved by implementing a similar philosophy: always program for the same virtual machine.[25]

For his achievement, the National Academy of Engineering in the United States elected him as a Foreign Associate member.[26] Another contribution of Gosling's was co-writing the "bundle" program, known as "shar", a utility thoroughly detailed in Brian Kernighan and Rob Pike's book *The Unix Programming Environment*.[27]

Honors

- 2002: awarded *The Economist* Innovation Award.[28]
- 2002: awarded *The Flame Award* USENIX Lifetime Achievement Award.[29]
- 2007: made an Officer of the Order of Canada.[30] The Order is Canada's second highest civilian honor. Officers are the second highest grade within the Order.
- 2013: became a fellow of the Association for Computing Machinery.[31]
- 2015: awarded IEEE John von Neumann Medal[32]
- 2019: named a Computer History Museum Fellow for the conception, design, and implementation of the Java programming language.[33]

Books

- Ken Arnold, James Gosling, David Holmes, *The Java Programming Language, Fourth Edition*, Addison-Wesley Professional, 2005, ISBN 0-321-34980-6

- James Gosling, Bill Joy, Guy L. Steele Jr., Gilad Bracha, *The Java Language Specification, Third Edition*, Addison-Wesley Professional, 2005, ISBN 0-321-24678-0
- Ken Arnold, James Gosling, David Holmes, *The Java Programming Language, Third Edition*, Addison-Wesley Professional, 2000, ISBN 0-201-70433-1
- James Gosling, Bill Joy, Guy L. Steele Jr., Gilad Bracha, *The Java Language Specification, Second Edition*, Addison-Wesley, 2000, ISBN 0-201-31008-2
- Gregory Bollella (Editor), Benjamin Brosgol, James Gosling, Peter Dibble, Steve Furr, David Hardin, Mark Turnbull, *The Real-Time Specification for Java*, Addison Wesley Longman, 2000, ISBN 0-201-70323-8
- Ken Arnold, James Gosling, *The Java programming language Second Edition*, Addison-Wesley, 1997, ISBN 0-201-31006-6
- Ken Arnold, James Gosling, *The Java programming language*, Addison-Wesley, 1996, ISBN 0-201-63455-4
- James Gosling, Bill Joy, Guy L. Steele Jr., *The Java Language Specification*, Addison Wesley Publishing Company, 1996, ISBN 0-201-63451-1
- James Gosling, Frank Yellin, The Java Team, *The Java Application Programming Interface, Volume 2: Window Toolkit and Applets*, Addison-Wesley, 1996, ISBN 0-201-63459-7
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- James Gosling, Henry McGilton, *The Java language Environment: A white paper (http://www.st roustrup.com/1995_Java_whitepaper.pdf)*, Sun Microsystems, 1996
- James Gosling, David S. H. Rosenthal, Michelle J. Arden, *The NeWS Book : An Introduction to the Network/Extensible Window System (Sun Technical Reference Library)*, Springer, 1989, ISBN 0-387-96915-2

See also

- History of Java
- Fallacies of distributed computing

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External links

- James Gosling's personal weblog (http://nighthacks.com/jag/blog/)
- Presentation (http://www.infoq.com/presentations/gosling-jvm-lang-summit-keynote) by James Gosling about the origins of Java, from the JVM Languages Summit 2008
- Slide show depicting Gosling's life (http://www.eweek.com/c/a/Application-Development/The-Life-and-Times-of-Java-and-James-Gosling-746438/)
- The Process of Innovation (http://www.stanford.edu/class/ee380/Abstracts/110309.html) – James Gosling's talk at Stanford University (video archive (http://ee380.stanford.edu/cgi-bin/videologger.php?target=110309-ee380-300.asx))
- James Gosling interview (https://twit.tv/shows/triangulation/episodes/245) on Triangulation (TWiT.tv). Recorded 2016-04-11

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