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Jean Bartik, Software Pioneer, Dies at 86

By STEVE LOHR Published: April 7, 2011

Jean Jennings Bartik, one of the first computer programmers and a pioneering forerunner in a technology that came to be known as software, died on March 23 at a nursing home in Poughkeepsie, N.Y. She was 86.



Northwest Missouri State University and the Jean Jennings Bartik Computing Museum Jean Bartik, right, and Kay McNulty Mauchly Antonelli, widow of John Mauchly, with part of the computer he helped design.



United States Army Jean Bartik, left, one of the last surviving women of the six that programmed the Eniac, in 1945.

The cause was congestive heart disease, her son, Timothy Bartik, said.

Ms. Bartik was the last surviving member of the group of women who programmed the Eniac, or Electronic Numerical Integrator and Computer, which is credited as the first all-electronic digital computer.

The Eniac, designed to calculate the firing trajectories for artillery shells, turned out to be a historic demonstration project. It was completed in 1946, too late for use in World War II, but was a milestone in the evolution of modern computing.

When the Eniac was shown off at the University of Pennsylvania in February 1946, it generated headlines in newspapers across the country. But the attention was all on the men and the machine. The women were not even introduced at the event.

"For years, we celebrated the people who built it, not the people who programmed it," said David Alan Grier, a technology historian at George Washington University and a senior vice president of the IEEE Computer Society.

The oversight has been somewhat redressed in recent years, and Ms. Bartik, in particular, received professional recognition as a result. Ms. Bartik and Frances Elizabeth Holberton, who died in 2001, were the lead programmers among the small team of women who worked on the Eniac.

In 2009, Ms. Bartik received a Pioneer Award from the IEEE Computer Society, and in 2008 she was named a fellow by the Computer History Museum in Mountain View, Calif.

The Eniac women were wartime recruits with math skills, whose job was initially described as plugging in wires to "set up the machine." But converting the math analysis into a process that made sense to the machine, so that a calculation could flow through the electronic circuitry to completion, proved to be a daunting challenge.

"These women, being the first to enter this new territory, were the first to encounter the whole question of programming," said Paul E. Ceruzzi, a computer historian at the Smithsonian Institution. "And they met the challenge."

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Betty Jean Jennings was born on Dec. 27, 1924, in rural Missouri, the sixth of seven children in a farm family whose parents valued education, said her son. She attended Northwest Missouri State Teachers College, now Northwest Missouri State University, majoring in math.

Her faculty adviser saw an advertisement in a math journal in 1945 that said the [Army](#) was recruiting math graduates for a wartime project in Philadelphia. She applied, was accepted and told to come quickly. She got on the next train, according to her son. "She wanted adventure, and she got it," he said.

In Philadelphia, while working on the Eniac, she dropped the use of the first name Betty, which she never liked, her son said. And down the hall at the University of Pennsylvania, she met William Bartik, an engineer working on another Pentagon project. They were married in 1946. (They divorced in 1968.)

After the war, Ms. Bartik joined the Eniac designers, [John Presper Eckert](#) and John W. Mauchly, in their effort to develop the Univac, an early commercial computer, which was introduced in 1951. While at the Eckert-Mauchly Computer Corporation — acquired by Remington Rand in 1950 — Ms. Bartik worked on hardware and software for both the Binac, a small computer made for Northrop Aircraft, and the general purpose Univac.

Ms. Bartik called working with the Eckert-Mauchly team on the Eniac and later the Univac a "technical Camelot," a tight-knit group advancing the frontiers of computing.

"This was the most exciting time in her life," said [Kathy Kleiman](#), a technology policy lawyer who has been making a documentary film about the women who programmed Eniac.

Ms. Bartik left the computer industry in 1951 to raise her three children and returned to it in 1967. After holding a series of jobs in programming, training and technical publishing, she was laid off in 1985 as she was nearing 61 and could not find another job in the industry.

"There's a lot of age discrimination, then and now, and I see it in my research," said Mr. Bartik, a labor economist.

For the next 25 years Ms. Bartik was a real estate agent in New Jersey.

Besides her son, of Kalamazoo, Mich., Ms. Bartik is survived by two daughters, Mary Williams of Long Beach, Calif., and Jane Bartik of Poughkeepsie.

*This article has been revised to reflect the following correction:*

**Correction: April 8, 2011**

An earlier version of this article reversed the captions on the two photos. As a result, the wrong person was identified as Ms. Bartik in each photo. She is on the left in the 1945 photo and on the right in the later photo.

*This article has been revised to reflect the following correction:*

**Correction: April 8, 2011**

An earlier version of this article misspelled the name of the company for which the Binac computer was made. It was Northrop Aircraft, not Northrup.

A version of this article appeared in print on April 8, 2011, on page A21 of the New York edition.



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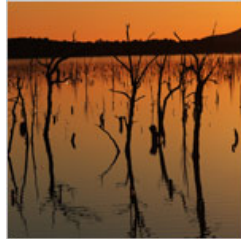
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