Biography of Jean Bartik

By
Dearbhla Boylan
Student ID: 17330661
E-mail: boylande@tcd.ie

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Introduction

“Work hard in silence, let your success be your noise.”

— Frank Ocean

I have decided to write this biography about the late Jean Bartik who was one of the original programmers for the ENIAC (Electronic Numerical Integrator and Computer), which was the world’s first all electronic digital computer. She is considered to have been a pioneer in computer programming.

When given this assignment I wanted to write this biography about someone who had made a great impact in software engineering and someone who was really at the forefront of progress in this field. I did some reading and research on various people who had been involved in the early stages of software engineering and Jean Bartik really stood out to me. I did some more reading on her and her work and I found her really interesting. I admire her work ethic and her willingness and drive to learn new things. I liked that she took on these challenging tasks and worked her way up to becoming someone who was really influential in the success of these projects that have helped to shape the way we use and make technology today.

Personal Life

Bartik was born, Betty Jean Jennings, on December 27th 1924 in Gentry County, Missouri. Jean was one of seven children, her family came from a farming and teaching background.

She attended Northwest Missouri State Teachers College (now Northwest Missouri State University) where she originally pursued a journalism but due to disliking her advisor and the financial strain of journalism school she changed to a degree in mathematics with a minor in English. She was the only person in her class who received a degree in mathematics.

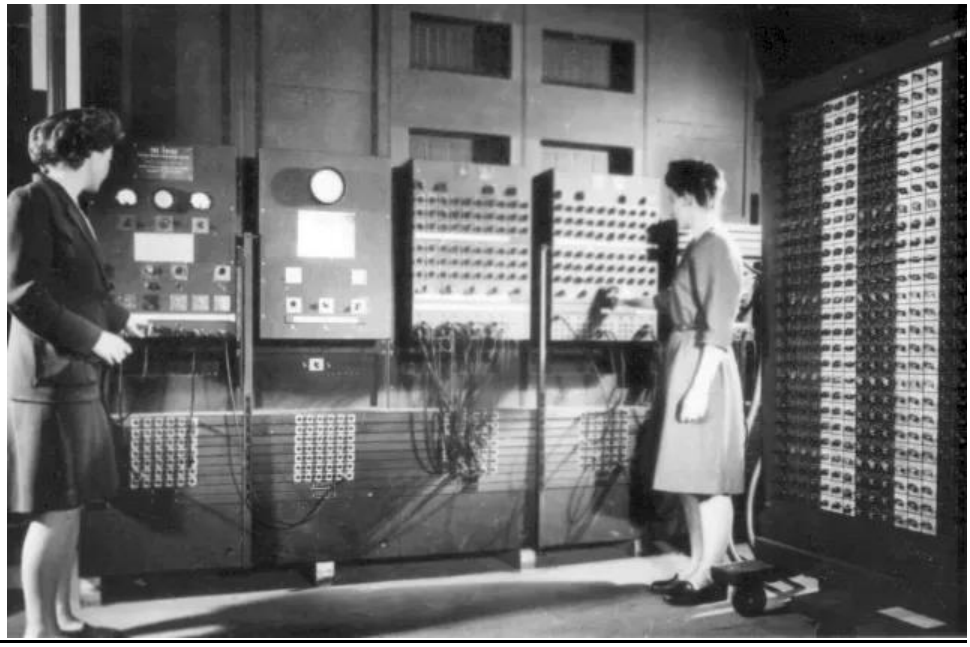
While working on the ENIAC Jean met her husband ,William Bartik, an engineer and they married in 1946. Together they had three children and later on in life they divorced.

After working on the UNIVAC, Bartik left computing to raise her children, and began work again in computing in 1967, where she continued to work until she was laid off until 1985. Facing age discrimination and unable to find a job in the computing field, Bartik decided to go into real estate after facing age discrimination in the computing field

Bartik was always an advocate for more women to get involved in computer science and technology and saw a future with more women working in this field “Women are busily working on it," she said. "I have high hopes for them."

She passed away in 2011.

Career



Bartik's career began when she graduated college in 1945. At this time the US army were recruiting mathematicians and she answered an advertisement looking for women with degrees in mathematics. She applied and was offered the job. She worked for the US army as a human "computer" to calculate artillery firing trajectories trajectories. Since this was during WWII the demand for people to carry out these calculations was high.

Later that year she was one of the six women chosen by the University of Pennsylvania to program and debug ENIAC (Electronic Numerical Integrator and Computer). This computer was developed to carry out the calculations that Bartik and many other women had been doing by hand and the project was led by John Mauchly and J. Presper Eckert Jr. Before being given access to use the room that held the classified ENIAC which was made up of 80-foot long mass of steel, cables, switches, and 16,000 vacuum tubes, Bartik and the other women had to teach themselves how the machine worked. They did this by studying diagrams of the machine and interviewing the engineers who had built it. Bartik became one of two lead programmers on the project.

After working on the ENIAC, Bartik went on to work on the BINAC and UNIVAC computers. BINAC was the first computer to use magnetic tape instead of punch cards to store data and the first computer to utilize the twin unit concept, and Bartik programmed a guidance system to run on it for Northrop Aircraft. She was responsible for designing the UNIVAC's logic circuits.

Originally Bartik and the other women involved in the ENIAC problem were not recognised for their work. It wasn’t until 1986 when an undergraduate student, Kathy Kleinman, at Harvard wrote a thesis on the early women in computing. This thesis became a documentary and the Wall Street Journal wrote articles on the development of the ENIAC. Eventually Bartik and the other women involved in the development of the ENIAC were given formal recognition and credit for their work in 1997.

Jean Bartik has received many awards over the years, including:

- Inductee, Women in Technology International Hall of Fame (1997).
- Fellow, Computer History Museum (2008)
- IEEE Computer Pioneer Award, IEEE Computer Society (2008)
- Korenman Award from the Multinational Centre for Development of Women in Technology (2009)
- The Jean Jennings Bartik Computing Museum at Northwest Missouri State University in Maryville, Missouri is dedicated to the history of computing and Bartik's career.

Why she inspires me

The thing that I find most inspiring about Jean is her work ethic. I admire how she took on challenges and worked hard to do her best and achieve the results that she wanted.
I think that it is very inspiring that she pursued a career in what she wanted to do and not what others thought she should be doing. She mentions in an interview that her whole family were teachers and they wanted her to become a maths teacher after she graduated. I admire the strength that she had to say no and to work in a field that she found interesting and that she enjoyed and not going down the stereotypical route.

Given the era that she grew up in I think it is impressive how as a woman she was able to make such an impact on the field of software engineering which at these early stages was largely male dominated. Although she had problems with her job when men returned from the war and many companies laid off the women who had taken up the jobs, Jean fought for her position and always fought for her voice to be heard in the workplace which I think portrays her high ambition and motivation. It's clear to me that she was someone who wanted to be taken seriously and wasn't going to wait around for that to happen.

Her drive to pursue more knowledge in the things she loved is also very inspirational to me. She achieved a master's degree in English at the University of Pennsylvania when she took a break from computing to focus on her family. Her love of learning is very inspirational. I also found it quite refreshing to read about someone in a technical field who also pursued their other interests.

Overall, I believe that Jean was a very influential and hardworking person. I think it is clear that the work she did made a big impact on the technology we use today and how far the field of computer science and software engineering have come. During her life and career she was also a huge advocate for more women to be involved in technology and engineering. Through my research for this assignment I have really learned about the progress of women in technology and how things have changed. I have been really inspired me to encourage more girls to not shy away from these subjects. I think it is still considered a "boy's" area even today but hopefully we can all do our best to carry on Jean's legacy and encourage more gender equality in the technology industry.

References

- https://ethw.org/Jean_Bartik
- https://www.britannica.com/biography/Jean-Bartik
- http://edition.cnn.com/2011/TECH/innovation/03/23/computers.bartik.obit/index.html
- http://www-history.mcs.st-and.ac.uk/Biographies/Bartik.html
- https://ethw.org/Oral-History:Jean_Bartik
- https://massivesci.com/articles/jean-bartik-eniac-programmer/