



Edsger W. Dijkstra

THE LIFE AND WORKS OF EDSGER W. DIJKSTRA

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Introduction

Edser W. Dijkstra was an early pioneer in the field of computer science, and widely considered to be among the most influential contributors of computing's founding generation.

The following is an exploration into the key time periods of his life which best lend themselves to understanding the influence that Dijkstra had on the world of computer science.

Early Life (1930-1952)

Edsger Dijkstra was born 11th May 1930 in Rotterdam, Netherlands.

after receiving extraordinary results in maths and physics, he followed the advice of his parents and studied theoretical physics University of Leidan.

Dijkstra's entry into the world of computer science happened by accident in 1952, after attending a three-week course in programming for the EDSAC computer on the suggestion of his father.

This course was also attended by Adriaan van Wijngaarden, Director of the Computation Department at the Mathematical Centre in Amsterdam, who offered Dijkstra a job, which he accepted.

Computer science was at such an early stage of infancy at this time that 'programmer' wasn't a recognised profession in the Netherlands marriage rites.

Dijkstra juggled between physics and his job in the Computation Department for some time, before coming to the conclusion that he would have to drop one subject and focus entirely on the other.

After a conversation with van Wijngaarden, Dijkstra decided to finish his studies in physics and dedicate himself to the under-developed field of computing.

Mathematical Center, Amsterdam (1952-1962)

Here, Dijkstra worked closely with hardware designers Bram Jan Loopstra and Carel S. Scholten to write software which would be used for the ARMAC computer being built by the two designers.

It was during this time that Dijkstra his solution to the shortest path problem, which is named after him in his honour.

Dijkstra also co-developed the first compiler for ALGOL 60, which had tremendous influence on his future opinion of programming as an asset to scientific endeavors.

Eindhoven University of Technology (1962-1973)

Dijkstra joined the Eindhoven University of Technology in 1962 as Professor of Mathematics. During this time, Dijkstra also collaborated with a number of computer scientists to develop the THE operating system, which would go on to influence the design process of future operating systems.

Burroughs Corporation (1973-1984)

In 1973, Dijkstra joined the Burroughs Corporation as its Research Fellow. His time spent with Burroughs Corporation led to him producing 500 documents, most of which were technical reports on a manner of topics.

By this time, Dijkstra was a famous figure in the world of computer science, and he also used this time to travel extensively on invitations to speak across the world.

Dijkstra also explored the notion of non-determinacy, particularly in asynchronistic interactions, and how these ideas could be implemented even in synchronised situations.

University of Texas, Austin (1984-1999)

Dijkstra accepted the Schlumberger Centennial Chair in the Computer Science Department at the University of Texas. Here, he pursued more mathematically-oriented research, and also co-wrote a book on predicate calculus.

As a lecturer, he took a highly unconventional and eccentric approach. He followed no text book, and greatly valued student engagement, going so far as to allow them to decide the topics of discussion.

And despite being in this position of teaching, Dijkstra took it as an opportunity to learn, and would analyze his student's solutions to the nth degree.

Conclusion

The world of computer science exists as it does today due to the tireless work and dedication shown by the likes of Edsger Dijkstra, and although he has passed away, his legacy will remain for a time to come.

Sources

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