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Biography of an influential software engineer - Sir Tim Berners-Lee

When looking at my choice of software Engineer for this biography it would be easy to assume that it was a lazy one. It would be easy to say that I went to the list of Turing award recipients and chose the most recent winner and I wouldn't blame someone for presuming this. However even though Berners-Lee is the most recent winner of this prestigious award that is not why I decided to write about him. In fact I changed my mind multiple times on who I was going to base this essay on. When confronted with the decision of who to choose I was a firm believer on picking someone that would mean something to me and not basing the decision on who they were but why it was that I found them interesting. So when I set out in the beginning I was looking for famous female software engineers, for the obvious reasons that I could try and relate to them and look up to them as role models because I am a woman. But then when I looked further into what they had done or why they had won a Turing award I realised I was only picking them because of who they were, women, and even though they have achieved amazing things, I was not excited about the work they had done, and to be honest some of it I didn't quite understand. I needed to choose someone who I would be fascinated about researching, and that is how decided upon Sir Tim Berners-Lee. He was awarded the Turing award for inventing the World Wide Web, the first web browser, and the fundamental protocols and algorithms allowing the Web to scale. When reading through the accomplishments of the Turing award winners this was one of the only ones that actually piqued my interest because this was something I could understand and someone I would like to know more about. Now that I have had a chance to Justify my decision, here is my written account of Sir Tim Berners-Lee's life.

Born 8 June 1955, in London, England, Tim was one of four children. His parents worked on the first commercially built computer. An avid train spotter as a child, he learnt about electronics from tinkering with a model railway. As for his early schooling he attended Sheen Mount Primary School, and then south west London's Emanuel School from 1969 to 1973. He studied at The Queen's College, Oxford, from 1973 to 1976, where he received a first-class bachelor of arts degree in physics. This information that he was probably influenced by his parents involvement with computers and interested in electronics from a young age gives us a fascinating insight into his early years.

After he had graduated, he spent two years with Plessey Telecommunications Ltd in Poole, Dorset, a major UK Telecom equipment manufacturer, working on distributed transaction systems, message relays, and bar code technology. In 1978 Tim left Plessey to join D.G Nash Ltd in Ferndown, Dorset, where he helped create among other things typesetting software for intelligent printers, and a multitasking operating system.

Berners-Lee worked as an independent contractor at CERN, the European Particle Physics Laboratory in Geneva, Switzerland from June to December 1980. While in Geneva, he wrote for his own private use his first program for sharing, updating and storing information. Named "Enquire" and never published, this program formed the conceptual basis for the future development of his most recognised achievement, the World Wide Web. After leaving CERN late in 1980, he went to work at John Poole's Image Computer Systems, Ltd, in Bournemouth, Dorset. For three years he ran the company's technical side. Work for him included real time control firmware, graphics and communications software, and a generic macro language. Here he worked on a project called "real-time remote procedure call" which gave him experience in computer networking.

In 1984, he returned to CERN to take up a fellowship. In 1989, CERN was the largest internet node in Europe, and Berners-Lee saw this as an opportunity to join hypertext with the internet. Berners-Lee wrote up his proposal in March 1989. It was then accepted by Mike Sendall, his manager at the time. He used similar ideas to those in his ENQUIRE system to create the World Wide Web. The

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World Wide Web was designed to allow people to work together by combining their knowledge in a web of hypertext documents. Tim's software also functioned as an editor and the first Web server. He wrote a browser/editor that ran in the NeXTStep environment and the first World Wide Web server, "httpd", and the first client, "WorldWideWeb". This work was started in October 1990, and it was made available within CERN in December, and on the Internet at large in the summer of 1991. The Address http://info.cern.ch/hypertext/WWW/TheProject.html was the first web page, which consisted of information regarding the WWW project. This is where it all started, visitors to the page could learn information about hypertext, technical details for creating their very own web pages, and even an explanation on how to search the Web for information.

To try and help us grasp how huge his achievement was at the time, in a list of 80 cultural moments that shaped the world, chosen by a panel of 25 renowned scientists, academics, writers, and world leaders, the invention of the World Wide Web was ranked number one, with the entry stating, "The fastest growing communications medium of all time, the internet has changed the shape of modern life forever. We can connect with each other instantly, all over the world". This statement encapsulates how groundbreaking Berners-Lee's work was.

Tim founded the World Wide Web Consortium at the then, Laboratory for Computer Science in 1994, since then, he has served as the Director of the World Wide Web Consortium, which is a Web standards organization that develops specifications, guidelines, software, and tools to help the Web reach its full potential. The Consortium has host sites located at MIT (Massachusetts Institute of Technology), at ERCIM in Europe, and at Keio University in Japan as well as offices around the world.

In more recent times Berners-Lee has worked with the UK government, in June 2009, then-British Prime Minister Gordon Brown announced Berners-Lee would work to help make data more open and accessible across the Web. Berners-Lee launched, late in 2009, the World Wide Web Foundation in order to "advance the Web to empower humanity by launching transformative programs that build local capacity to leverage the Web as a medium for positive change." The Alliance for Affordable Internet (A4AI) was launched in October 2013 and Berners-Lee is leading the affiliation of public and private organisations that includes Microsoft, Intel, Google and Facebook. The A4AI's quest is to make internet access more affordable so that access is extended in the developing world, where only 31% of people are online. Berners-Lee will work with those whose aim is to decrease internet access prices so that they drop below the UN Broadband Commission's worldwide target of 5% of monthly income.

Throughout his life he has received many awards and honours. He was knighted in 2004, after he was promoted from Officer of the Order of the British Empire to Knight Commander of the Order of the British Empire in the New Year Honours "for services to the global development of the internet". In June 2007, he was appointed to the Order of Merit. This is an order restricted to 24 living members. Granting membership to the Order of Merit is completely up to the Queen, and does not require recommendation by ministers or the Prime Minister. He has been bestowed honorary degrees from a number of major Universities around the world, among these are Manchester (where his parents worked on the Manchester Mark 1 in the 1940s), Harvard and Yale. And as previously mentioned he is the most recent recipient of the Turing award.

He has two children which he had with his first wife, Nancy Carlson, since then they have divorced and he is now married to Rosemary Leith.

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There is no doubt in my mind or I would assume anyone else's that Sir Tim Berners-Lee had a huge effect on the modern world today. From his work and the impact that his work has had we can see just how influential a software engineer he was. What drew me towards Berners-Lee most was how his work had changed my life and the world around me, but as I began to learn more about him the fact that interested me most is how he made his idea available freely, with no patent and no royalties due, and even now he works to help those in developing countries to gain more access. The fact that the person you are writing about is trying to change the world for the better, and not for personal gain, makes a report much easier to write.