# Biography of Tim Beners-Lee

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To produce a short (2-4 page) biography of a key software engineer, discussing the work and impact of the individual.

## Introduction

Sir. Tim Beners-Lee may be the single most influential software engineer on the planet, yet his name doesn't spark the same interest as the likes of Bill Gates or Steve Jobs outside of select groups of computer science enthusiasts. Having never broke the barrier of software engineer to pop culture star he remains relatively under the radar to the general public, yet has transformed every single one of our lives to an extreme extent. He is a high profile man in the world of software and for good reason. He is the man who invented the world wide web and the first web server, and he released it for free, and he continues to fight for neutrality and equality across the globe.

## Early life

Tim Berners-Lee was born in London in 1995. His parents both worked on the first ever commercial computer (the Feranti Mark I) leading to him growing up around computer parts and cutting edge technology. The concept of computers fascinated him and lead him to studying a degree in physics at Oxford University, where he graduated with a first class degree (Biography Online, 2019).

Tim started his professional career in telecommunications, working on distributed systems and message sending, before joining D.G Nash where he worked on software for printers. He then moved onto consultancy as he had vast knowledge of software engineering and systems, leading him to discover a common problem with sharing information easily while working at CERN (Scientists and Scientists, 2019).

## The World Wide Web

In his first of two stints at CERN, he wrote a program called Enquire for personal use. It was based around hypertext which ultimately gave him the idea for the World Wide Web during his second stint at CERN. When he returned in 1984, thousands of people were working their and there was no method to share data easily besides emails, which had no easy to use user interface and didn't allow content sharing in the manner we have today. He thought about the problem and started working to devise a solution, a system that would make information sharing easy from anywhere in the world. All the technology, the internet, hypertext and

computers had already been used for years but he combined them together in one standardised package which became the World Wide Web. In 1990 he released his initial version of the web, along with the first web browser and the first web server. It was put online in 1991 at “Info.cern.ch” (Biography Online, 2019). It had three key elements;

- A universal system to locate web pages (URL).
- A standard language to format and display web pages online; ; Hypertext Markup Language (HTML).
- A protocol defines how messages are formatted and transmitted over the net; Hypertext Transfer Protocol (HTTP).

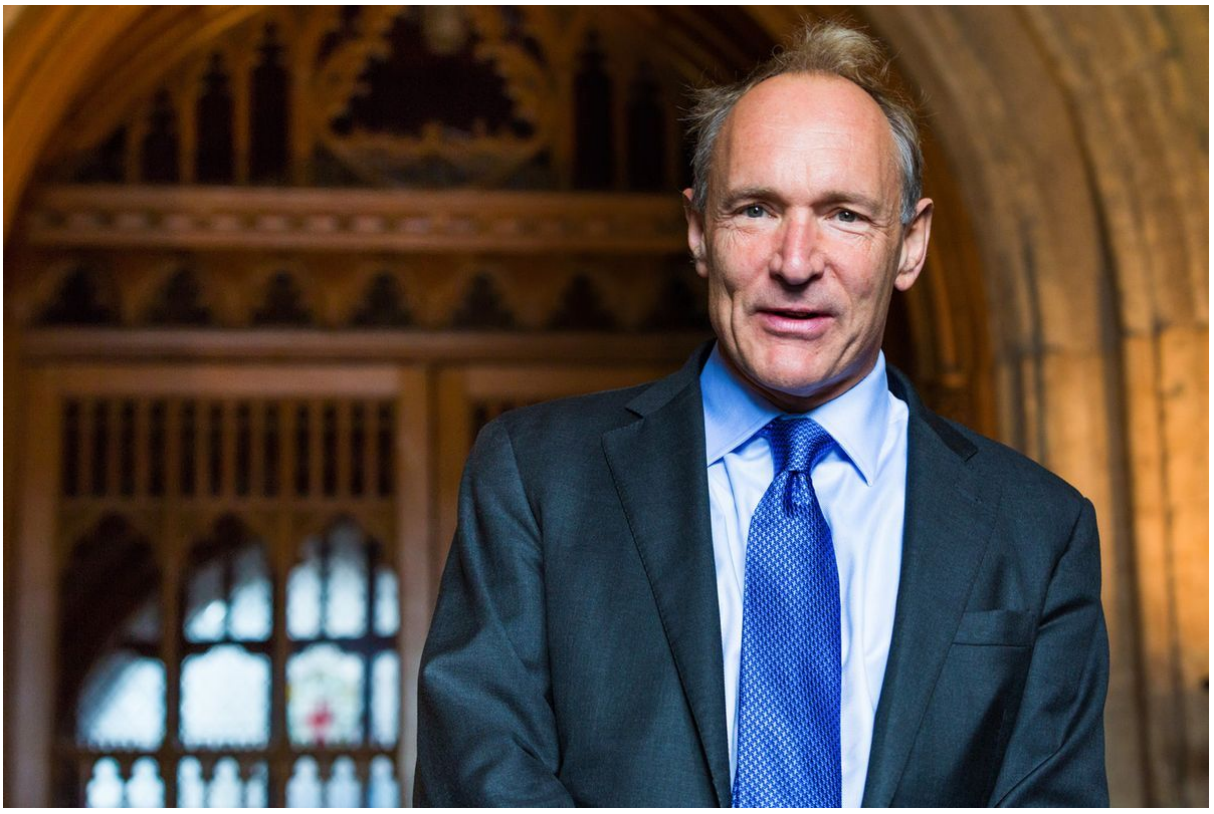
These have stood the test of time and are still the standards used today. Tim Berners decided to release his creation to the public for free, not directly profiting off the World Wide Web. This lead to the rapid adoption and adaptation of the Web, with numerous technologies being developed to capitalise off the new consumer markets.

## The World Wide Web Consortium (W3C)

After releasing the World Wide Web he established the World Wide Web Consortium to improve the quality of the web. It also was agreed that the Web would be universally free indefinitely and the goal was to connect as many people as possible. Back in the early days of the internet, Tim says “only smart people” could use it and that it was kept that way on purpose. The W3C decided to change that and make it easy to use and available to everyone. They done this by further developing the standards of URL, HTML and HTTP and provided ease of access to learn these tools. They essentially exist to ensure the long term growth of the web and helped define the initial protocols and guidelines. Today their vision of the Web is defined by rich interaction (the ability for anyone, anywhere to interact), data services (such as XML), and trust and security on the Web (W3.org, 2019).

## The World Wide Web Foundation

This is an independent, international organisation set up by Tim, to fight for the rights of web users everywhere. It was established in 2009 and its vision is global digital equality. They believe everyone should have the same rights online and should not be persecuted for things such as free speech. They aim to end censorship and form coalitions between governments, particularly in heavily censored areas. They pressure apply pressure for policy change in spaces from local governments to the UN. They want global equal opportunities to allow benefits such as education, financial empowerment and the sharing of content privately and without censorship. They also believe government data should be open to the public and have made great progress within this goal (World Wide Web Foundation, 2019).



## Summary of Impact

The World Wide Web is arguably the most important piece of technology humans have developed. It has revolutionised every sector of business and spawned hundreds of new consumer markets. The free sharing of data has allowed ideas to spread faster than ever leading to rapid evolution. Nearly every other modern software engineer builds products to work with Tim's set of standard protocols to use the Web. Releasing the World Wide Web for free was also influential in developing the open source nature of the early internet.

The W3C set the standards for the web and worked constantly for years to ensure it's growth. Their standards define how we still share data today. They are responsible for the ease of use of the Web, which resulted in it's massive growth, and today continue to try and further develop existing protocols.

Tim's latest organisation has a mission to save the world from any problems he might have unintentionally caused by making the internet so widespread. It's aims of non censored free information sharing may be ambitious due to restrictive countries and places still enforcing communist regimes but they continue to actively pursue the cause. It has already helped lower corruption in Governments with the open policy rules around their data and the pressure they put on the UN to push transparency into regulation is truly admirable.

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