

The Past, Present, and Future of the World Wide Web – Perspectives from someone who was “in the room where it happened”

It is probably not hyperbole to say that the World Wide Web (WWW) is one of the most disruptive and influential technologies of the past three decades. It has changed the way we access information, revolutionized the way we shop, redefined social interaction, provided a new medium for entertainment and opened exciting new possibilities for education. For many people, the Web just appeared without warning – few are aware of its roots and the path that it took in order to achieve such a prominent role in our lives.

What we know as the Web was a convergence of ideas and technologies that came together driven by a need for efficient, seamless, and transparent communication. It was one of several competing applications designed for that single purpose. The Web’s influencers and inventor(s) never imagined its global adoption and how it would eventually be used for such a variety of applications and become a development platform on its own.

This course will be a mixture of technological, historical, philosophical, and anecdotal content. Topics to be covered in a six-week course schedule include:

- **Week 1**
 - The roots of the World Wide Web as reflected in the works of Vannevar Bush, Ted Nelson, Douglas Engelbart and others
 - How the emerging Internet became the perfect platform for the Web
 - The time was ready – the convergence of networking, desktop computing, and text processing
 - Why CERN was the perfect incubator for the development of the Web
- **Week 2**
 - Networked-based alternatives to the Web (e.g., Gopher, WAIS) and why the Web won out
 - The decision to make the Web free and open source and the push towards standardization (formation of the World Wide Web Consortium (W3C))
 - The emergence of Mosaic, Netscape and “the browser wars”
- **Week 3**
 - How the incorporation of security and privacy opened the door to Web-based e-commerce
- **Week 4**
 - Web 2.0 brings greater interactivity, accessibility and portability
 - How the growth of the Web created the demand for search engines and the birth of Google and Yahoo!
- **Week 5**
 - The emergence of Web-based social media and networking

- Why education and the pornography business are early adopters of new Web technology and how they have influenced its development
- The growth of Web-based entertainment services and streaming
- **Week 6**
 - Attempts to predict and define the next generation of the Web – Web 3.0?
 - Critical components of a “Future Web” – semantics, artificial intelligence (AI), virtual reality (VR), etc.
 - The legal, societal, and ethical issues that must be considered in a “Future Web.”

Presentation materials include:

- Lecture slides and videos
- Online references
- Guest speakers (if possible)

Background: Instructor first became involved with the emerging Web technology while on sabbatical at CERN (where the Web was invented) in 1989. During that period, he became involved in the development of the technology and upon his return to the U.S. was a part of the team that established the first American website (the fifth in the world) at the Stanford Linear Accelerator Center (SLAC). A major portion of his subsequent career has been driven by his ongoing involvement with Web technology.
