Chapter 2
Internet History

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ABSTRACT
This paper outlines and analyzes milestones in the history of the Internet. As technology advances, it presents new societal and ethical challenges. The early Internet was devised and implemented in American research units, universities, and telecommunication companies that had vision and interest in cutting-edge research. The Internet then entered into the commercial phase (1984-1989). It was facilitated by the upgrading of backbone links, the writing of new software programs, and the growing number of interconnected international networks. The author examines the massive expansion of the Internet into a global network during the 1990s when business and personal computers with different operating systems joined the universal network. The instant and growing success of social networking-sites that enable Netusers to share information, photos, private journals, hobbies, and personal as well as commercial interests with networks of mutual friends and colleagues is discussed.

INTRODUCTION
History consists of a series of accumulated imaginative inventions. ~ Voltaire

Floridi (2009, 2010) argues that we are now experiencing the fourth scientific revolution. The first was of Nicolaus Copernicus (1473–1543), the first astronomer to formulate a scientifically-based heliocentric cosmology that displaced the Earth and hence humanity from the center of the universe. The second was Charles Darwin (1809–1882), who showed that all species of life have evolved over time from common ancestors through natural selection, thus displacing humanity from the centre of the biological kingdom. The third was Sigmund Freud (1856–1939), who acknowledged that the mind is also unconscious and subject to the defence mechanism of repression, thus we are far from being Cartesian minds entirely transparent to ourselves. And now, in the information revo-
olution, we are in the process of dislocation and reassessment of humanity’s fundamental nature and role in the universe. Floridi argues that while technology keeps growing bottom-up, it is high time we start digging deeper, top-down, in order to expand and reinforce our conceptual understanding of our information age, of its nature, less visible implications and its impact on human and environmental welfare, giving ourselves a chance to anticipate difficulties, identify opportunities and resolve problems, conflicts and dilemmas.

This essay focuses on the milestones that led to the establishment of the Internet as we know it today, from its inception as an idea in the 1950s until the early 21st Century. The varied and complex social and technological transformations we witness today have their roots in the way the Internet has been developed through research grants from the U.S. Department of Defense’s Advanced Research Projects Agency. Scientists wished to maintain communication links between distant locations in the event that electrical routes had been destroyed. The early Internet was devised and implemented in American research units, universities, and telecommunication companies that had vision and interest in cutting-edge research. The program grew in the 60s and 70s, becoming a network of computers that transmitted information by “packet switching.”

The network of computers was from the start an open, diffused and multi-platform network that up until the 1990s developed in the United States and then, within a few years, expanded globally in impressive pace and with no less impressive technological innovations the end of which we are yet to witness.

The interdisciplinary field of Technoethics is concerned with the moral and ethical aspects of technology in society. The Internet plays a crucial world in today’s technology and society (Luppicini, 2010). In order to understand how the Internet became an integral part of our lives, it is crucial to examine its history and the major developments that took place from its modest infancy until its giant presence. In fifty years (1960-2010) the technology advanced rapidly. This has been an age of innovation where ideas have driven the development of new applications which, in turn, have driven demand. Then we witness circularity. New demands yielded further innovation and many more new applications – email, the world-wide-web, file sharing, social networking, blogs, skype. These were not imagined in the early stage of the net.

This essay examines milestones in the history of the Internet, how the Internet evolved from the Advanced Research Projects Agency (ARPA, 2004) in 1957, its formative years (1957-1984) until nowadays; from the early Internet devised and implemented in American research units, universities, and telecommunication companies that had vision and interest in cutting-edge research until a global phenomenon. I highlight the entry of the Internet into the commercial phase (1984-1989), facilitated by the upgrading of backbone links, the writing of new software programs and the growing number of interconnected international networks; the massive expansion of the Internet into a global network during the 1990s when business and personal computers with different operating systems joined the universal network; the instant and growing success of social networking -- sites that enable Netusers to share information, photos, private journals, hobbies and personal as well as commercial interests with networks of mutual friends and colleagues. The technology has transformed into a quotidien network for identifying, sharing and conveying information and ideas, exchanging graphics, videos, sounds and animation to hundreds of millions of Netusers around the world.

**THE FORMATIVE YEARS**

The history of the Internet started in the United States in the early 1960s. This was the Cold War period, when the world was bi-polar: The United
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