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Wireless Fidelity: The History of Wi-Fi

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Wireless networks have connected the world. WLANs use high frequency radio bands to connect electronic devices, such as smart phones and tablet computers. The thesis statement for this paper is WLANs developed from smaller and more limited prototypes into today's ubiquitous standardized version known simply as Wi-Fi. The earliest WLAN prototypes were created in the 1970s and 80s. These prototypes were solidified into standards in the 90s and given the nickname Wi-Fi. This technology continues to advance with more speed, security, and coverage.

The history of this technology stretches back to the early days of the Internet itself. The earliest prototype began in 1971 in a US state not usually known for its advanced telecommunications technologies. We went to Hawaii for a vacation once, and had a great time.

ALOHAnet was a wireless network that connected the Hawaiian Islands via an Ultra High Frequency (UHF) radio band, which is a much higher frequency than those used by most terrestrial voice communication technologies, such as radio and early cellular phones

(http://www.hicss.hawaii.edu/hicss_31/specpl3.html). In 1985, the US Government released the use of reserved UHF frequencies to the general public. These bands had formerly been reserved for special uses in the industrial, scientific, and medical fields (Federal Communications Commission Spectrum Policy Task Force, Nov 15, 2002). The Institute of Electrical and Electronics Engineers (IEEE) created a new protocol for wireless communication in 1997 they labeled it 802.11 after the designation for the committee in charge of its creation. A protocol such as this provides a coded language that devices use to quickly transmit data. The 802.11 protocol allowed faster transmissions using those newly released UHF bands (Lamstra et al., 2010).

This new protocol meant that wireless transmissions were faster and easier to achieve than ever before, but the public needed a name they could understand. In 1999, a trade group

Comment [CP1]: Make sure you indent the first line of each paragraph. Just hit the TAB key once at the beginning of the line.

Comment [CP2]: 1. When using an acronym like this, write the words of the acronym out completely the first time you use it in the essay, followed by the acronym in parentheses like this: Wireless Local Area Networks (WLANs). You can use just the acronym every time after that.

Comment [CP3]: 2. It's not necessary to announce the thesis like this. Just take off the part of the sentence where you say "The thesis statement for this paper is..." and leave "WLANs developed from smaller and more limited prototypes into today's ubiquitous standardized version known simply as Wi-Fi."

Comment [CP4]: 1. This is off topic. The essay is about the history of this technology, not about your vacation. This should be deleted.

Comment [CP5]: 2. The URL for this source should go in the full-text citation on the references page, not in the in-text citation here. Only the author's name and date should go here in the in-text citation. Placement: Pointing to the hyperlink in the middle of the paragraph.

Comment [CP6]: 3. This is a run-on sentence. There are two sentences joined together. You can easily separate them with a semi-colon, a comma and conjunction, or just separate them into two complete sentences with a period like this: "The Institute of Electrical and Electronics Engineers (IEEE) created a new protocol for wireless communication in 1997. They labeled it 802.11 after the designation for the committee in charge of its creation."

comprised of telecom giants—including Nokia, Lucent, and Motorola—formed the Wireless Ethernet Compatibility Alliance (WECA) to promote the new technology to the general public. WECA enlisted the help of a brand consulting firm called Interbrand. They asked Interbrand to come up with a new name for the technology that was “a little catchier than IEEE 802.11B Direct Sequence.” Interbrand created the advertising slogan: “The Standard for Wireless Fidelity.” This new slogan played on an older term, High Fidelity or Hi-Fi, which is used to describe superior quality stereo equipment. The name Wi-Fi was born. WECA soon changed its name to the Wi-Fi Alliance, and they are now responsible for testing and certifying new devices for compliance with the 802.11 protocol (Doctorow, Nov 08, 2005). As the protocol is continuously updated to produce faster and more secure transmissions, new devices must be checked for compliance with the latest version.

The continued updates to the protocol make Wi-Fi technology faster and more secure.

And able to transmit over larger areas. These advances have taken shape many different ways over the past two decades. According to In-Stat Research, the latest protocol version, 802.11AC, is capable of up to one gigabit per second transmissions, and there will be over one billion devices compatible with this latest version worldwide by 2015 (Market Wired, Feb 08, 2011). Also, code security has gone through several upgrades to its current iteration of Wi-Fi Protected Access, version two (WPA2). This uses Advanced Encryption Standard and is now mandatory for all Wi-Fi certified devices (Wi-Fi Alliance, 2015). Finally, the race is on to provide Wi-Fi over greater coverage areas. Verizon provides the best coverage, in my opinion. Entire university campuses and whole cities have begun offering free Wi-Fi coverage in the range of square miles, using outdoor Wi-Fi access points and hotspots, a recent term describing an area of increased Wi-Fi coverage.

Comment [CP7]: 1. This is a sentence fragment. It should be joined to the previous sentence as a list like this: “The continued updates to the protocol make Wi-Fi technology faster, more secure, and able to transmit over larger areas.”

Comment [CP8]: This is a very technical term with no explanation. You should add more detail about what this is and maybe why it's important.

Comment [CP9]: 1. You should remove this opinionated statement. It doesn't support your thesis statement. Placement: Pointing to this sentence: “Verizon provides the best coverage, in my opinion.”

From the earliest prototypes of limited coverage and speeds to the latest Wi-Fi covering entire metropolises at gigabits per second, wireless Internet access has come a long way. Those earlier versions of WLANs, although known by a different name, gave the world what is now known as Wi-Fi. In 2014, the Wi-Fi Alliance celebrated its fifteen year anniversary. The organization prides itself on its vision of “connecting everyone and everything, everywhere.” On its website, the Wi-Fi Alliance (2015) claims, “interoperability, ease of use, and innovation have made Wi-Fi one of the greatest success stories of the last century, and Wi-Fi has an extensive roadmap to carry the technology well into the future.” That future may hold developments that connect the world in even more ways than ever before.

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