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October 30, 2020

COMS 4, Section 39

Informative Speech First Draft Outline

1. Introduction

- A. Attention Getter: It seems like not too long ago, we considered the ability to stream live video on 4g to be impressive. Some of us may have been thinking, “What’s next?”
- B. Purpose: The purpose of my speech is to inform you about 5g.
- C. Salience: Apart from increased speed, there are more applications with 5g that we can use and develop.
- D. Credibility: I have learned about 5g in my AT&T internship last summer and so I can tell you a thing or two about it.
- E. Preview: Today, I am going to inform you of 5g and help make it understandable. I am going to talk about the evolution of the “generations”, how 5g works, and how 5g can be used and applied.

2. Body

A. Evolution Into 5g

- 1. According to Mesbahi and Rahbar (2019), “With the impressive success of mobile wireless communications in various generations (1G to 4G), wireless data traffic has grown dramatically over the past few years.”

2. 1g gives us basic analog signal calls, whereas 2g gives us digital signal communication with encryption and some basic text messaging.
3. 3g gives us internet connection and allows for video calls, with a higher emphasis on filming. 4g allows for streaming and the ability to video call multiple people, like in Skype or Zoom.
4. 5g helps solve capacity issues with 4g, where many connections put a strain on the 4g network. It is mainly known for lower latency connections.

B. How It Works

1. According to Nalband et al. (2020), “demands have surpassed the technical capabilities of present fourth-generation long term evolution (4G LTE) cellular systems.”
2. 5g makes use of shorter millimeter waves, ranging between 30 and 300 GHz, meaning more bandwidth for users.
3. Because these waves can’t penetrate through walls and are easily absorbed, we would need small cell networks, which are closer than traditional towers.

C. 5g Applications

1. The advantages of 5g come down to “faster speeds, massive bandwidth and very low latency (the delay of signal transmission)” (Allen, 2020).
2. Lower latency makes certain ideas more feasible, like self-driving cars, virtual and augmented reality, and distanced medical monitoring.

3. Other uses involve smarter manufacturing and control of remote devices.

3. Conclusion

- A. Review of main points: I have just informed you about how we got to 5g, how the 5g network works, and what its uses are.

Works Cited

ALLEN, J. (2020). What Is 5G and Is It for Me? *American Journal of Family Law*, 34(2), 63–66.

Mesbahi, G., & Ghaffarpour Rahbar, A. (2019). Cluster-Based Architecture Capable for Device-to-Device Millimeter-Wave Communications in 5G Cellular Networks. *Arabian Journal for Science & Engineering (Springer Science & Business Media B.V.)*, 44(11), 9719–9733. <https://doi-org.proxy.lib.csus.edu/10.1007/s13369-019-03830-w>

Nalband, A. H., Sarvagya, M., & Ahmed, M. R. (2020). Power saving and optimal hybrid precoding in millimeter wave massive MIMO systems for 5G. *Telkomnika*, 18(6), 2842–2851. <https://doi-org.proxy.lib.csus.edu/10.12928/TELKOMNIKA.v18i6.15952>