Podcast Title: *ACM Bytecast*
Episode Title: Vint Cerf

In this episode of *ACM Bytecast*, host Jessica Bell is joined by Vint Cerf, Vice President and Chief Internet Evangelist for Google. While his title of Vice President has only been established since 2005, his career in computing goes back to his early years. The podcast begins with Vint sharing his journey of becoming interested in computing through his first involvement with a tube machine computer in 1958. During his years at UCLA, he was given permission to use and experiment with computers, which helped spark his engineering passion. He went to Stanford University where he took several computer courses and later went back to UCLA with the desire to grow his knowledge in computing.

Next, Vint explains his first computing project where he introduced packet switching, which took the place of circuit switching. This project was a huge success, specifically in the development of electronic mail. With more experience and knowledge under his belt, Vint then shares his decision to return to UCLA as a faculty member. He used his passion and interest in computing to teach computer science and electrical engineering. After spending some time at UCLA, he then became involved with ARPANET and together with a friend developed Transmission Control Protocol (TCP). This had the purpose of detecting loss and duplicates, and retransmitting in networks.

Jessica asks Vint about his approach to creating a future-proof network. Vint explains their approach in making assumptions, specifically in assuming the internet would not be known by the networks, but instead by the gateways. He also shares some important principles they used in developing it. First is its capability in not putting a limit on the number of networks that can be connected. Second was that the internet package does not know how it is being carried, allowing it to not be affected by the internet protocol. These principles are what guided the development of the network. He goes on to explain how the world wide web expanded and began collaborating with other developments, such as smart phones.

Next, Jessica asks Vint to share his thoughts on some of the challenges in networks today and how we can approach these. One big challenge Vint points out is in security. This kind of security technology was not available in early designs, and therefore was later added in. However, this did not fully solve the issue in security which is still a problem today. Another challenge is misinformation in social networking, and specifically in how this affects people's behaviors. He explains that a good way to approach a solution for these is through collaboration with others and development of new tools for tracking bugs and misinformation.

The podcast concludes with Vint sharing his desire for everyone to experience the challenges and inspiration of creating programs. The field of computing and electronics is huge and can offer many great things, however, it will always hold challenges that we must face and hold each other accountable to. He shares his hopes for the future of computing, specifically in increasing the safety and efficiency of artificial intelligence and emerging space stations projects and software.

Key Takeaways:
0:26- Jessica introduces the episode and Vint Cerf.
1:06- Jessica asks Vint to share his journey of getting involved in computing.
7:56- Vint shares about his work with ARPANET and developing TCP.
11:12- Jessica asks Vint how he approached the creation of a future-proof network.
17:36- Vint talks about the creation of smart phones and its collaboration with the internet.
19:10- Vint shares some challenges in networks today and how to approach these problems.
23:35- The upsides and downsides of internet.
26:00- Jessica asks Vint how network challenges affect out view of computer science and computer research.
29:06- Vint shares what he is excited to see in computing for the future.

Links:
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