Report on Second Generation Computers (1950s-1960s) Transistors:

Introduction

The second generation of computers emerged in the 1950s and 1960s, made a significant milestone in the evolution of computing technology. This era saw the replacement of vacuum tubes with transistors, revolutionizing the design, performance, and reliability of computers.

Characteristics of Second Generation Computers

- Transistors: The most notable feature of second-generation computers was the use of transistors instead of vacuum tubes. Transistors were smaller, faster, and more reliable, consuming less power and producing less heat.

- Smaller Size: Second-generation computers were significantly smaller than their first-generation counterparts, making them more manageable and efficient.

- Improved Performance: Transistors enabled faster processing speeds, increased storage capacity, and enhanced overall performance.

- Better Reliability: The use of transistors reduced the likelihood of hardware failures, making second-generation computers more reliable and less prone to maintenance.

Key Features and Technologies

- Magnetic Cores: Second-generation computers used magnetic cores for memory storage, which provided faster access times and improved data storage capacity.

- Assembly Languages: The development of assembly languages enabled programmers to write code using symbolic representations, making programming more efficient and accessible.

- Commercial Computers: Second-generation computers marked the beginning of commercial computing, with companies like IBM, UNIVAC, and Honeywell developing and marketing computers for business applications.

Examples of Second Generation Computers

- IBM 7090: Released in 1959, the IBM 7090 was a popular second-generation computer used for scientific and engineering applications.

- UNIVAC 1107: Introduced in 1957, the UNIVAC 1107 was a commercial computer designed for business applications, featuring a magnetic core memory and transistorized logic.

- Honeywell 400: Released in 1960, the Honeywell 400 was a second-generation computer designed for business and scientific applications, featuring a modular design and transistorized logic.

Conclusion

The second generation of computers, characterized by the use of transistors, marked a significant improvement in computing technology. The introduction of transistors enabled faster, smaller, and more reliable computers, paving the way for the development of third-generation computers and beyond. Here are some references that can be used for the report on Second Generation Computers (1950s-1960s) Transistors:

References:

1. Ceruzzi, P. E. (2003). A History of Modern Computing. MIT Press.

Chapter 3 discusses the transition from vacuum tubes to transistors in second-generation computers.

2. Campbell-Kelly, M., & Aspray, W. (2004). Computer: A History of the Information Machine. Westview Press.

Chapter 6 covers the development of second-generation computers, including the use of transistors.

3. Slater, R. (1987). Portraits in Silicon. MIT Press.

Chapter 11 features an interview with William Shockley, co-inventor of the transistor, discussing its impact on computing.

4. IBM Archives. (n.d.). IBM 7090. Retrieved from (link unavailable)

This online archive provides detailed information on the IBM 7090, a popular second-generation computer.

5. UNIVAC. (n.d.). UNIVAC 1107. Retrieved from (link unavailable)

This website offers technical specifications and historical context for the UNIVAC 1107.

I was supposed to use Harvard style but I’ll fix that since I used APA.

- (Ceruzzi, 2003, p. 123)

- (Campbell-Kelly & Aspray, 2004, p. 156)

- (Slater, 1987, p. 211)

- (IBM Archives, n.d.)

- (UNIVAC, n.d.)