

Communication Systems: Components, Types and Importance

Gabriel Cortazar*

Department of Computer Engineering, University of Barcelona, Barcelona, Spain

DESCRIPTION

Communication has been an essential part of human society since the dawn of civilization. Over time, the methods and technologies used for communication have evolved significantly, transforming the way we interact, collaborate, and exchange information. Today, we live in a world where communication systems have become the backbone of global connectivity, fostering relationships, disseminating knowledge, and facilitating business transactions. In this article, we will delve into the engaging of communication systems, exploring their significance, evolution, and future prospects. A communication system is a structured and interconnected network of devices, protocols, and technologies designed to enable the exchange of information, data, or messages between individuals or machines over short or long distances. These systems have evolved from rudimentary methods such as smoke signals and carrier pigeons to advance digital networks that span the globe [1-5].

Components of a Communication System

Transmitter: The transmitter is the starting point of any communication process. It converts the information or data into a signal suitable for transmission through a specific medium, such as radio waves, optical fibers, or electrical currents.

Medium: The medium serves as the conduit through which the signal travels. It can be a physical medium like cables, fiber optics, or wireless channels like airwaves and satellite links.

Receiver: The receiver is responsible for capturing and interpreting the transmitted signal to retrieve the original information or data. It converts the signal back into a format intelligible to the intended recipient.

Message: The message is the content or information to be communicated. It could be in the form of text, voice, video, data, or any combination thereof.

Protocols: Protocols are a set of rules and conventions that govern the formatting, transmission, and reception of data

within a communication system. They ensure efficient and error-free data transfer [6-10].

Types of communication systems

Wired communication systems: Wired communication systems use physical cables, such as twisted-pair cables, coaxial cables, and fiber optics, to transmit data. They offer high reliability and security, making them ideal for critical applications like banking, healthcare, and defense.

Wireless communication systems: Wireless communication systems utilize electromagnetic waves to transmit data over the airwaves. These systems are more flexible, enabling seamless connectivity between devices without the need for physical connections. Common examples include Wi-Fi, Bluetooth, and cellular networks.

Satellite communication systems: Satellite communication systems use geostationary or low-earth orbit satellites to relay signals over long distances, making global communication possible. They play a crucial role in telecommunication, broadcasting, and navigation.

Internet communication systems: The internet is a vast and complex communication system that connects billions of devices worldwide. It uses a combination of wired and wireless technologies to facilitate data exchange, enabling services like email, social media, and web browsing [11].

Importance of communication systems

Effective communication systems are fundamental to the functioning of modern society and the global economy. Here are some key reasons why communication systems are major:

Connectivity: Communication systems bridge the gap between people, businesses, and governments, fostering social connections and economic growth.

Information exchange: They facilitate the seamless exchange of information, knowledge, and ideas, leading to scientific

Correspondence to: Gabriel Cortazar, Department of Computer Engineering, University of Barcelona, Barcelona, Spain, E-mail: gabcortazar@uv.es

Received: 20-Nov-2023, Manuscript No. IJOAT-23-25898; **Editor assigned:** 22-Nov-2023, Pre QC No. IJOAT-23-25898 (PQ); **Reviewed:** 06-Dec-2023, QC No. IJOAT-23-25898; **Revised:** 13-Dec-2023, Manuscript No. IJOAT-23-25898 (R); **Published:** 20-Dec-2023, DOI: 10.35248/0976-4860.23.14.262.

Citation: Cortazar G (2023) Communication Systems: Components, Types and Importance. Int J Adv Technol. 14:262.

Copyright: © 2023 Cortazar G. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

advancements, educational opportunities, and cultural exchange.

Business and trade: Communication systems enable global trade and commerce by providing platforms for negotiations, transactions, and supply chain management.

Emergency services: Reliable communication systems are essential for emergency services like police, fire, and medical response, ensuring rapid assistance in critical situations.

Social interaction: Social media and online platforms have transformed the way people interact and share experiences, making the world a more interconnected place.

CONCLUSION

Communication systems have come a long way from smoke signals to the interconnected global networks we rely on today. These systems have shaped the course of human history, enabling progress, and connectivity on an unprecedented scale. As we look to the future, the continued evolution of communication systems promises even greater advancements, making the world a smaller, more interconnected, and better-informed place.

REFERENCES

1. Jordan B. The low road to basic income? Tax-benefit integration in the UK. *J Soc Policy*. 2012;41(1):1-7.
2. Mori I. Half of UK adults would support universal basic income in principle. Polling commissioned by the Institute for Policy Research, University of Bath. 2017.
3. Perkiö J. Basic income proposals in Finland, Germany and Spain. Vienna, Austria: Transform european network for alternative thinking and political dialogue discussion paper. 2013(2).
4. Arriba A, Rodríguez-Cabrero R. New developments in the national guaranteed minimum income scheme in Spain. *ESPN Flash Report*. 2021;15.
5. Yang J, Mohan G, Pipil S, Fukushi K. Review on Basic Income (BI): Its theories and empirical cases. *J Soc Econ Dev*. 2021:1-37.
6. Moffitt RA. The negative income tax and the evolution of US welfare policy. *J Econ POV*. 2003;17(3):119-140.
7. Gentilini U, Grosh M, Rigolini J, Yemtsov R, editors. Exploring universal basic income: A guide to navigating concepts, evidence, and practices. World Bank Publications; 2019.
8. Bill J. The prospects for basic income. *Soc Policy Adm*. 1988;22(2): 115-123.
9. Van Parijs P. Why surfers should be fed: The liberal case for an unconditional basic income. In *Distributive Justice* 1991;101-131. Routledge.
10. Vanderveen RJ. Real freedom versus reciprocity: Competing views on the justice of unconditional basic income. *Political studies*. 1998;46(1):140-163.
11. Pateman C. Democratizing citizenship: Some advantages of a basic income. *Politics and society*. 2004;32(1):89-105.