

Seminar On Li-Fi (light fidelity) Technology



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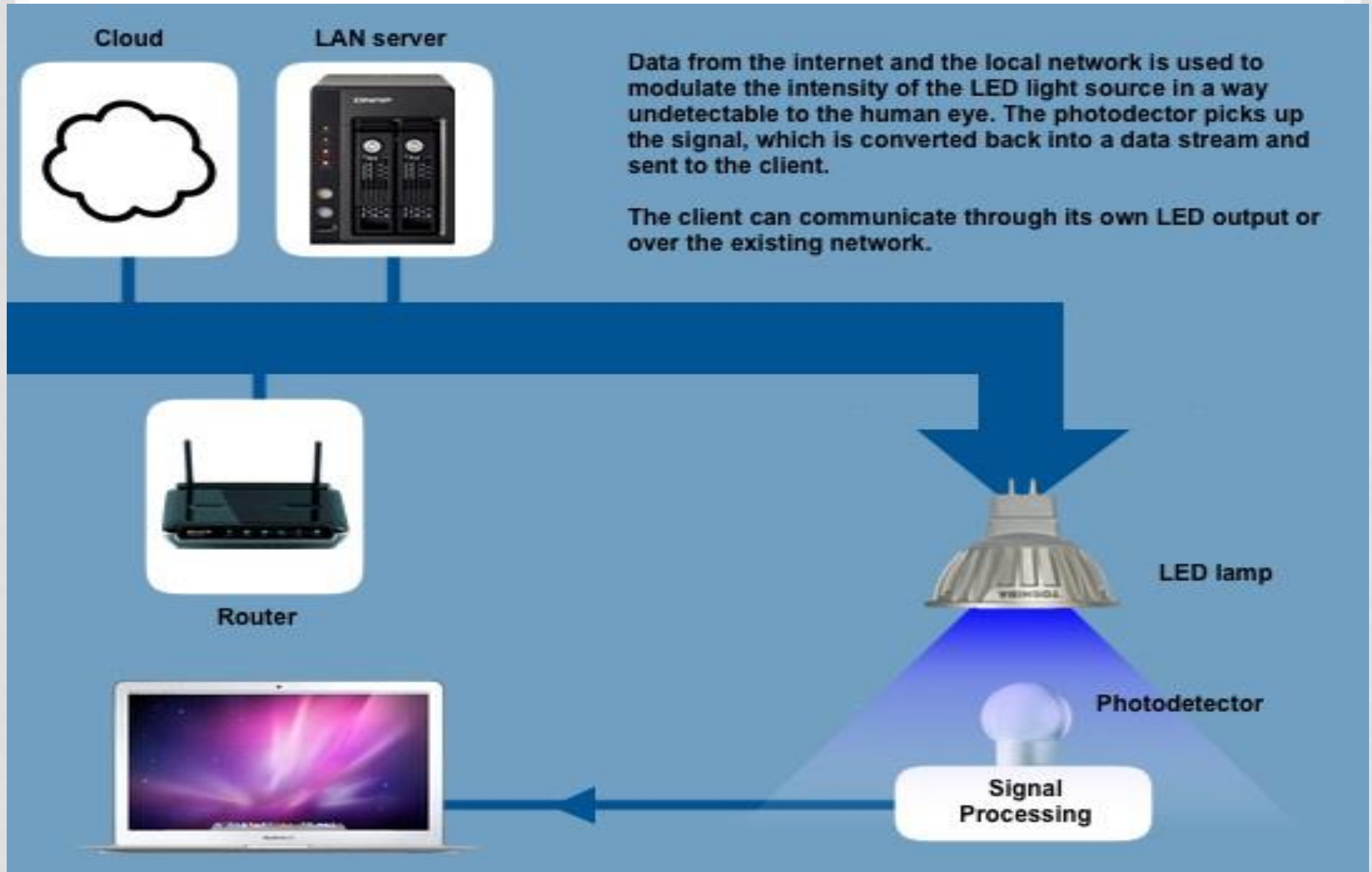
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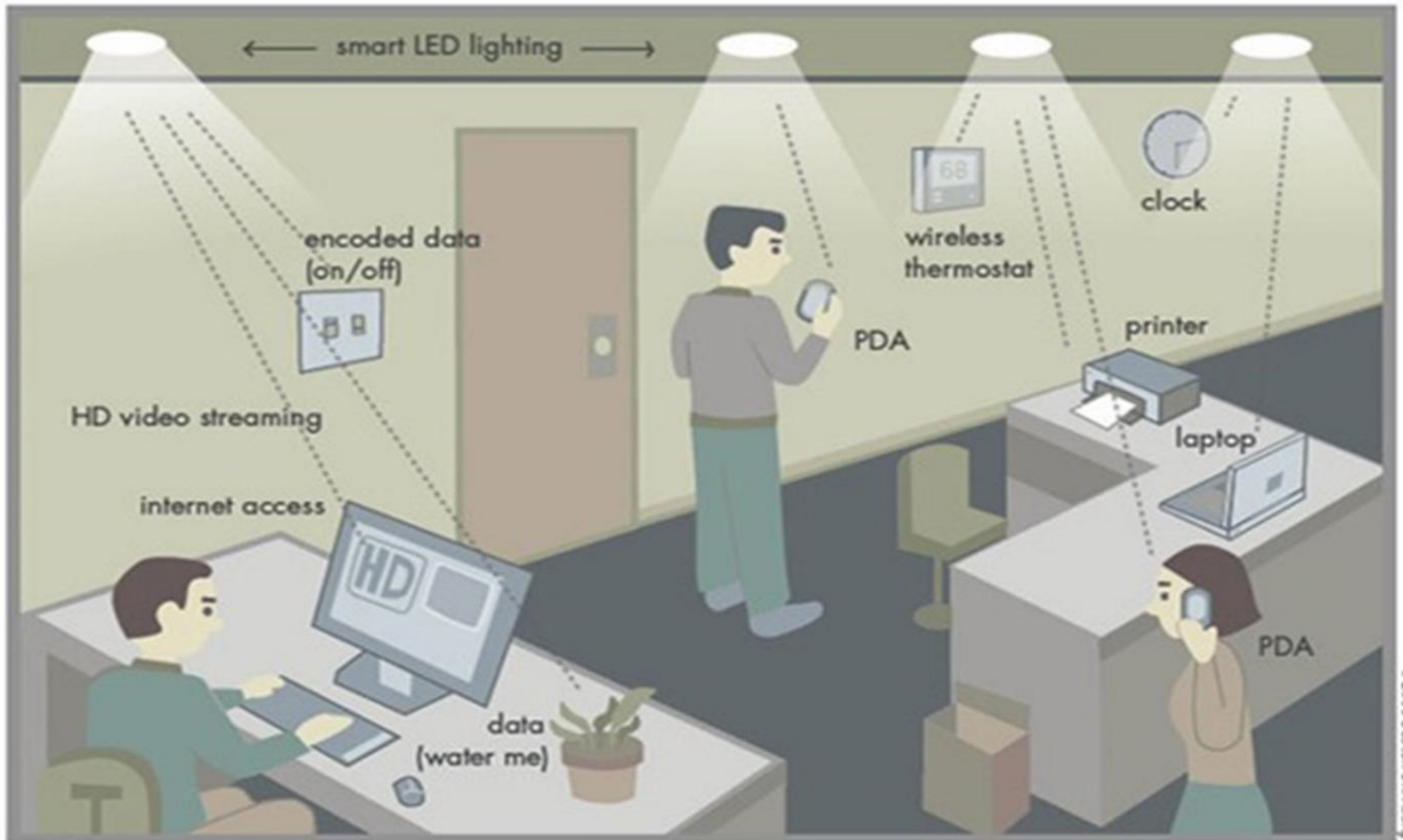
INTRODUCTION

- LiFi is a wireless optical networking technology that uses light-emitting diodes (LEDs) for data transmission.
- LiFi is designed to use LED light bulbs similar to those currently in use in many energy-conscious homes and offices.
- However, LiFi bulbs are outfitted with a chip that modulates the light covert for optical data transmission.
- LiFi data is transmitted by the LED bulbs and received by photoreceptors.

HOW LI-FI WORKS?



REAL TIME USAGE OF LI FI



HOW IT IS DIFFERENT?

- Li-Fi technology is based on LEDs for the transfer of data.
- The transfer of the data can be with the help of all kinds of light, no matter the part of the spectrum that they belong.
- That is, the light can belong to the invisible, ultraviolet or the visible part of the spectrum.

WIFI VS LIFI

- Li-Fi can be thought of as a light-based Wi-Fi. That is, it uses light instead of radio waves to transmit information.
- Instead of Wi-Fi modems, Li-Fi would use transceiver-fitted LED lamps that can light a room as well as transmit and receive information.
- Wi-Fi is great for general wireless coverage within building and Li-Fi is ideal for high density wireless data coverage in confined area and for relieving radio interference issues.
- So the two technologies can be considered complementary.

APPLICATIONS

- Li-Fi makes the operation theaters developed and will be very helpful in performing the robotic operations.
- High-speed internet with affordable charges.
- Smarter Power Plants
- Undersea Awesomeness

ADVANTAGES OF LI-FI

- Li-Fi can solve problems related to the insufficiency of radio frequency bandwidth because this technology uses Visible light spectrum that has still not been greatly utilized.
- High data transmission rates of up to 10Gbps can be achieved.
- Since light cannot penetrate walls, It provides privacy and security that Wi-Fi cannot.
- Li-Fi has low implementation and maintenance costs.

DISADVANTAGE

- Light can't pass through objects.
- A major challenge facing Li-Fi is how the receiving device will transmit back to transmitter.
- High installation cost of the VLC systems.
- Interferences from external light sources like sun, light, normal bulbs, opaque materials.

CONCLUSION

- The possibilities are numerous and can be explored further.
- If his technology can be put into practical use, every bulb can be used something like a Wi-Fi hotspot to transmit wireless data and we will proceed toward the cleaner, greener, safer and brighter future.

THANK YOU