IMPLEMENTING LIFI PROTOCOLS

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Abstract— LI-FI is the latest technology in the Field of wireless communication. Nowadays many people are using internet to fulfill most of their tasks through wired or wireless networks. As the number of users is increasing, the rate of data transmission in the wireless network automatically decreases. WI-FI provides us speeds near about 150mbps as per IEEE 802.11n but still it is not able to fulfill the requirement of the user because of such reason we are introducing the LI-FI. According to the German physicist Harald Hass, LI-FI provides much higher data transmission speeds (10gbps and max up to 224gbps per second) by using visible light. In this condition the LI-FI/WI-FI is analyzed. It's the same idea band behind infrared remote controls but is more powerful. Haas says his invention, which he calls D-LIGHT, can produce data rates faster than our average broadband connection. Nowadays, parking vehicles is one of the most tedious jobs. Hence, in order to solve this problem, a reliable system is proposed. Our system solves the current parking problems by offering guaranteed parking reservations with the lowest possible cost and searching time for drivers and the highest revenue and resource utilization for parking managers.

Index Terms— Dynamic pricing, dynamic resource allocation, Li-Fi, smart car parking.

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BACKGROUND

Li-Fi technology was invented by Harald Haas, he describes about this technology in his Ted Global Talk on Visible Light Communication. "At the heart of this technology, it is a new generation of high brightness light-emitting diodes." According to Harald Haas from the University of Edinburgh, UK, "if you turn on the LED, digital 1 will be transmitted, and if you turn off the LED, digital 0 will be transmitted". According to Haas, if you want to transmit 0, turn off the LED and, if you want to transmit 1, turn on the LED. It is practically feasible to encode the digital data in the light by altering the data rate at which the LEDs flicker's ON and OFF to give the various numerous strings of digital 1's and O's. The intensity of light emitting diode is modulated so rapidly that it cannot be detected by the naked human eye, so the output will appear to be constant.

CURRENT RESEARCH

It has been revealed after some market research that Li-Fi technology will hit a market value of 8500 Million USD within 2020 [10]. Many big organizations and agencies like Microsoft, NASA, and European Space Agency (ESA) have started working or experimenting with infrastructures operating with Li-Fi [11]. Even Apple is experimenting with Li-Fi for their future devices [12].

SYSTEM ARCHITECHTURE

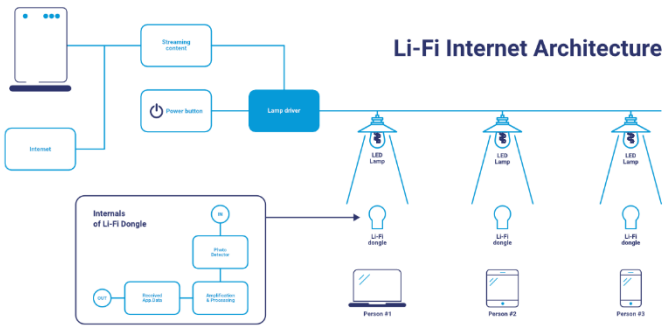

Fig 1. LiFi Internet Architechture [9]

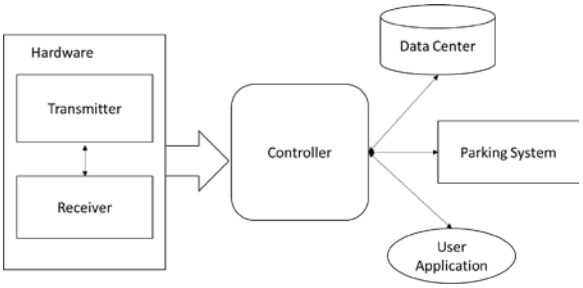

Fig 2. Proposed System Architecture

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