

LIFI Based Indoor Navigation System for College

Avinash Kumbhar , Praful Wadkar , Mayur Virkar & Shubham Bhalekar

Abstract: The LI-FI is that the newest technology within the Field of wireless communication. These days many of us square measure mistreatment web to satisfy their task through wired or wireless. Because the variety of users is hyperbolic, the speed of knowledge transmission within the wireless network gets mechanically decreases. WI-FI provides North American country speed close to regarding 150mbps as per IEEE 802. 11n however steel it's ineffectual to satisfy the need of the user thanks to such reason we tend to square measure introducing the LI-FI. in keeping with the German phycist Harald Hass LI-FI provides additional speed (10megabits per second) information transmission by mistreatment actinic radiation. therefore here during this condition we tend to square measure analyze the LI-FI/WI-FI. It's constant plan band behind infrared remote controls however way more powerful. Haas says his invention, that he calls D-LIGHT, will turn out information rates quicker than our average broadband affiliation. during this we tend to square measure planning to compare and analyzed the speed of LI-FI and WI-FI and conjointly network jam drawback throughout the rise the increasing of users.

1. Introduction

Li-Fi uses light-weight instead of frequent signals therefore intolerant to disturbances. VLC may be used safely in craft while not poignant airlines signals. Integrated into medical devices and in hospitals as this technology doesn't manage radio waves, therefore it will simply be utilized in all such places wherever Bluetooth, infrared, Wi-Fi and near broadly speaking in use. Beneath water in ocean Wi-Fi doesn't work on nearly light-weight is usedand therefore subsurface explorations are sensible to travel currently with abundant ease. There are billions of bulbs worldwide that simply have to be compelled to get replaced with LED's to transmit knowledge. Security may be facet advantage of victimization light-weight for knowledge transfer because it doesn't penetrate through walls. On highways for control applications like wherever Cars will have semiconductor diode primarily based headlights, semiconductor diode primarily based backlights, and that they will communicate with one another and stop accidents. Victimisation this Technology worldwide each streetlight would be a free knowledge access purpose. The problems of the

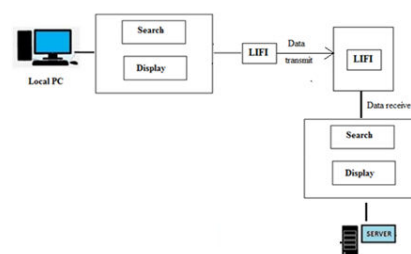
shortage of frequent information measure is also sorted out by Li-Fi.

2. Literature survey

Most of us are familiar with Wi-Fi (Wireless Fidelity), which uses 2.4-5GHz RF to deliver wireless Internet access around our homes, schools, offices and in public places. We have become quite dependent upon this nearly ubiquitous service. But like most technologies, it has its limitations. While Wi-Fi can cover an entire house, its bandwidth is typically limited to 50-100 megabits per second (Mbps) today using the IEEE802.11n standard. This is a good match to the speed of most current Internet services, but insufficient for moving large data files like HDTV movies, music libraries and video games.

The more we become dependent upon 'the cloud' or our own 'media servers' to store all of our files, including movies, music, pictures and games, the more we will want bandwidth and speed. Therefore RF-based technologies such as today's Wi-Fi are not the optimal way. In addition, Wi-Fi may not be the most efficient way to provide new desired capabilities such as precision indoor positioning and gesture recognition. Optical wireless technologies, sometimes called visible light communication (VLC), and more recently referred to as Li-Fi (Light Fidelity), on the other hand, offer an entirely new paradigm in wireless technologies in terms of communication speed, flexibility and usability.

3. Architecture diagram



4. Proposed system

We are proposing novel approach for college organization. We are using LIFI module in our project. If user wants to find some particular destination within collage, he/she will enter his/her query. This data is transmitted to server through LIFI. Server will fetch required data from database. This data is sent to user through LIFI. Data will be displayed on user's mobile. This is efficient technique for searching location.

5. Conclusion

With the growing technology and increasing use of the net services, prospects area unit terribly high that use of Li-Fi technology are shortly in apply. . The construct of Li-Fi is spreading thus quick because it is simple to use, it's attracting interest of individuals. the utilization of Li-Fi technology provides a awfully golden chance to interchange or to administer various to the radio based mostly wireless technologies. Because the range of individuals and also the access of web is increasing on such an outsized scale, accessing web through Wi-Fi can shortly be lean because the usage is increasing however the information measure remains an equivalent. During this Report paper we have a tendency to conclude that the chances area unit varied and might be explored more this technology is in producing method to provide each bulb to become a Wi-Fi hotspot to transmit wireless information.

6. REFERENCES

- [1] D. Tsonev, S. Videv, and H. Haas, ight Fidelity (Li-Fi): Towards All optical Networking, Dec. 2013.
- [2] Neha Singh, Divya Chauhan, Deepika Dubey Li-Fi (Light Fidelity)-The future technology In Wireless Communication International Journal of advances in computing communications, vol 1, 2013
- [3] N.Navyatha, T.M.Prathyusha, V.Roja, M.Mounika Li-Fi (Light delity)-LED Based Alternative International Journal of Scientc Engineering Research, Volume 4, Is-sue 5,May-2013 1039 ISSN 2229-5518
- [4] Jyoti Rani¹, Prerna Chauhan², Ritika Tripathi³ International Journal of Applied Engineering Research, ISSN 0973-4562 Vol.7 No.11 (2012)
- [5] Ian Lim, Li-Fi Internet at the Speed of Light, the gadgeteer, 29 August 2011.
- [6]<http://heightech.blogspot.in/2012/10/li-latest-technology.in/wireless.html>, October 2012.
- [7] Megha Goyal¹, Dimple Saproo², Asha Bhagashra³ New Epoch of Wireless Communication: Light Fidelity International Journal

of Innovative Research in Computer and Communication Engineering Vol. 1, Issue 2, April 2013.

[8] Nam-Tuan Le¹, Sunwoong Choi¹, Jaesang Cha², YeongMin Jang¹, Dynamic Channel Selection Scheme for IEEE 802.15.7 Visible Light Communication.

[9] Gordon Povey, Li-Fi Consortium, dated 19 October 2011.

[10] X. Li, R. Zhang, and L. Hanzo, ooperative Load Balancing in Hybrid Visible Light Communications and WiFi,IEEE Transactions on Communications, vol. 63, no. 4,pp. 1319329, April 2015.