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# Crytanalysis Using Dotnet for Emergency Service and Patient Data

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**Abstract:** Health care is one such field, where WIFI is harmful because it emits the electromagnetic waves that affects patients with disorder. Hence LIFI emerged as the upcoming technology which causes no hazard to the patients and also provides more salient features like speed and broad spectrum than WIFI. The major drawback of transmitting data, in hospitals is to conform that it secure. As a result for this difficulty, the replica suggested here apply Elliptic Curve Diffie Hellman and SHA to allocate security. Elliptic Curve Diffie Hellman is used as an unbalanced function that it uses two keys which in turn makes it hard to hack. Secure Hash Algorithm functions as an additional merit used mainly for authentication purpose.

**Keywords:** Light Fidelity, Elliptic Curve Diffie Hellman algorithm, SHA, confidentially.

## I. INTRODUCTION

The additional paper works are generated in hospital while observing patients and the man power is dissipated between doctors with documents can be minimized by using Light Fidelity as the network and brought in to safeguard the data. The abstract of using LIFI instead of WIFI is due to its broad spectrum that will never be filled in our existence, it causes no hazard to patients health distinct WIFI, which is highly harmful for the neurological disorders and the pace at which the data are transmitted are most quickly. It has few implementation amount as it use LED bulbs for transmission. Hence maintenance cost is low as it is just the light bulbs we use on regular basis. Due to its boasting speeds of up to 224 gigabits per second. Li-Fi could make a huge impact on the Internet of Things too, with data transferred at much elevated quantity with even more devices able to connect to one another. Furthermore, with rapid connectivity and data transmission it's an interesting space for businesses. The combination of IOT devices and Li-Fi will provide a wealth of opportunities for retailers and other businesses alike. Then the Li-Fi technology would be the foremost optimum solution on top of Wi-Fi technology. Li-Fi technology can also be old to enlarge wireless networks at your home, office or university. The Information that has to be transmitted from patient to doctor is measured and the best path for the transmission of the medical parameters is first determined using the Routing protocol Ad-Hoc On-Demand Distance Vector and Greedy Algorithm.SHA is used for data encryption/decryption as well as authentication. Hence, it provides at most privacy. Almost the health care parameters can be transmitted as control packets with various medical data sets in . The sensors such as heart rate, EEG, pulse rate and blood pressure which are basic information can be transmitted rapidly in case of patients whose health request continuous observation. Thus LIFI technique has been used with Crytanalysis to gives a good network in private areas.

## II. RELATED WORK

Harald Hars, Liang Yina, Yunlu Wang, Cheng Chena and Yunla Wang were the people who implemented lifi to the world. It transmits data through lights by modulating its force. Arul. R. Sharma has differentiated how LIFI runs better than WIFI mainly concentrate on how WIFI private fields can also use light fidelity. Subham Chatterjee describes how LED bulbs, can be utilized completely, not just using it merely as light bulbs as well as for data transmission in between the server. Jay .H. Bout talks about the problems faced with WIFI when the amount of users grows, the speed is reduced respectively. Prussian Kumar Maura, Japura Sharma, Vaishali Sahila, Hashish Robert and Mahindra Srivatsavat discuss the efficiency of ad-hoc on urging distance vector algorithm. Neha Trithani and Ganesan highlights us about using Elliptic Curve Diffie Hellman Algorithm for providing security for Cloud architecture. Ram Ratan Agarwal explains how the Diffie Hellman key agreement protocol is used to provide forward secrecy for web browser applications. Xing Jhang describes about using Diffie Hellman on IRIS nodes for key agreement and pair-wise key creation between the sensors amidst the network composed of IRIS nodes. In SIP environment, Jinhee Seo proposes an idea to reduce the execution time of TLS handshake authentication mechanism, Diffie Hellman based password authentication method can be used as replacement. This paper focuses on security. Many crytanalysis hash functions are constructed to provide the data. Hash function create message digest of fixed length. In this observation is done using sensors and the data is wirelessly transmitted using wireless sensors. Wireless sensor involve RF signal for their data transmission. If the frequency of the goes

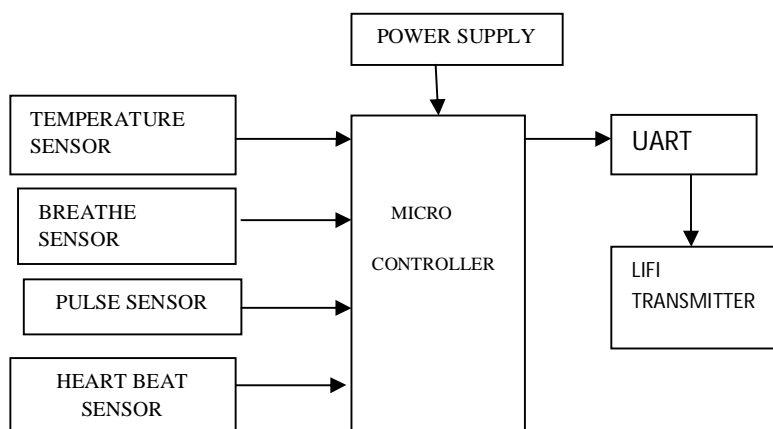
above certain range means it will become radiation and it will start affecting the patients. The increased radiations will easily affect the patients. So in order to overcome these drawbacks we are going for the proposed system

### III. PROPOSED SYSTEM

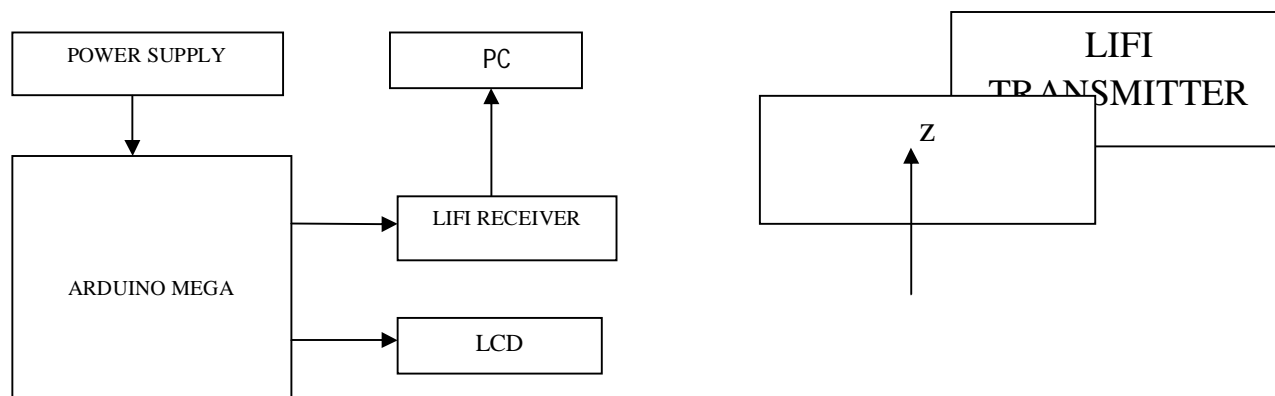
We have proposed the plan of summing the future technology LIFI with security through a series of algorithms. Elliptic Curve Diffie Hellman provides an unbalanced function of using keys with Secure Hash Algorithm. Monitoring is done using sensors and the data is transmitted using wireless sensors. Wireless sensor involve RF signal for the data transmission. If the frequency goes above certain range then it will become radiation and starts affecting the patients. The rapidly increased radiations will easily attach the patients. So in order to overcome these disadvantages the proposed system is used. The sensor will provide above 3000 samples values per second. It will be observed and filtered using microcontroller. All the sample values from the controller is transferred to the receiver section using visible light communication. The data will be monitored in the kit using the microcontroller and in the PC using DOTNET software. The result will be encrypted and decrypted using hash algorithm.

### IV. BLOCK DIAGRAM

#### A. Transmitter Section



#### B. Receiver Section



### V. TEMPERATURE SENSOR

The first slave connected to a temperature sensor LM35. This senses the temperature of an engine and provides the level of temperature.

#### A. General Description

The LM35 series are accurately integrated-circuit temperature sensors, whose result voltage is linearly correspondingly to the Celsius (Centigrade) temperature. The LM35 thus has an control above linear temperature sensors calibrated in Kelvin, as the user is not required to reduce a huge constant voltage from its result to obtain convenient Centigrade scaling.

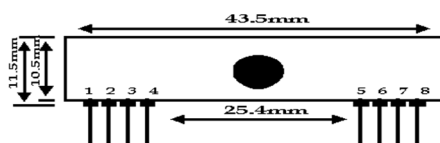
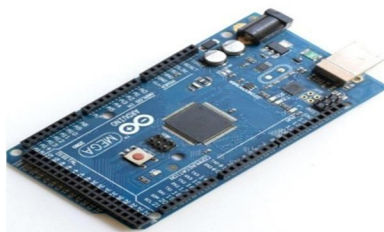




### VIII. ARDUINO MEGA

Mega2560-CORE is a compact, utter and breadboard-friendly board base on the ATmega2560. Its design is based on the Arduino Mega2560,so we can use it as a Arduino Mega2560 development board. In a unlike place, it shortfall only a 6-foot download port and a reset switch. Mega2560-CORE has a matching download line and the other one end of the download cable is a USB interface, so it is very appropriate for use. Outermost (non-USB) power can come either from an AC-to-DC adapter (wall-wart) or battery. The adapter can be associated by plugging a 2.1mm center-positive plug into the board's power jack.

#### A. Arduino Mega



pin 1 : Gnd  
pin 2 : Digital Output  
pin 3 : Linear Output  
pin 4 : Vcc  
pin 5 : Vcc  
pin 6 : Gnd  
pin 7 : Gnd  
pin 8 : Ant ( About 30 - 35 cm )

Pin Out Diagram

### IX. CONCLUSION

The advanced plan of using the Li-Fi technology in Health Care arose merely as Wi-Fi is still sensitive in such areas as it is considered hazardous, toxic and unsafe. So eventually, it proceeds to extra man power and Paper work. Another significant feature executed in Li-Fi is Secured through Elliptic Curve Diffie Hellman and Secure Hash Algorithm, thus creating it safe. The future of Wi-Fi is highly undetermined with vastly compact spectrum of radio frequencies. Thus Li-Fi remains to be the upcoming field in another intimated area of wireless technology.

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