

**INFORMATION SCIENCE AND ENGINEERING**

**INTERNET OF THINGS (21ISE47A)**

**Practical Activity**

# **CERTIFICATE**

This is to certify that a **Practical Activity** entitled with: “LASER EYE” is being

Submitted By

Khyrul Mateen Khan (1NH21IS078)

Nithesh Kumar (1NH21IS104)

P Aditya (1NH21IS105)

Poornachandra (1NH21IS114)

**Signature of the faculty**

**Ms. Chitti**

(Associate Professor)

**ABSTRACT**

The rising concern over property intrusion and trespassing has underscored the need for effective and economical security solutions. Traditional security camera systems, while effective, are often costly and lack real-time alarm capabilities. This paper introduces an innovative approach to address these challenges by proposing an affordable security system that utilizes a laser module, Wi-Fi connectivity, and an infrared (IDR) sensor.

The primary objective of this research is to develop a low-cost security solution that offers robust intrusion detection capabilities for private property owners. The proposed system leverages the precision of laser technology to create a reliable perimeter-based detection mechanism. By establishing a laser grid network, the system can detect disturbances in the laser beams caused by intruders or trespassers.

Integration with a Wi-Fi module allows for real-time communication and alerts to property owners through mobile devices or computers. This feature eliminates the shortcomings of traditional security systems that lack immediate notification capabilities. Additionally, the inclusion of an IDR sensor enhances the system's accuracy by detecting body heat signatures, ensuring that false alarms triggered by environmental factors are minimized.

The affordability of this proposed security system is a critical factor in its design. By utilizing cost-effective components and leveraging advances in laser and sensor technologies, the system aims to democratize access to effective security measures, thereby addressing the widespread issue of trespassing on private property.

**TABLE OF CONTENTS**

|  |  |
| --- | --- |
| **CONTENTS** | **PAGE NUMBER** |
| **ABSTRACT** | **i** |
| **LIST OF FIGURES** | **ii** |
| **LIST OF SCREENSHOTS** | **iii** |
| **1. INTRODUCTION** |  |
| **2. REQUIREMENTS** |  |
| **3.1 Hardware Components** |  |
| **3.2 Software Components** |  |
| **3. IMPLEMENTATION** |  |
| **4. RESULTS** |  |
| **5. CONCLUSION** |  |

**LIST OF FIGURES**

|  |  |  |
| --- | --- | --- |
| **Figure No.** | **Particulars** | **Page No.** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

# **INTRODUCTION**

The security of private property is a growing concern in today's world, as instances of intrusion and trespassing continue to rise. Conventional security camera systems offer a level of protection but often come with high costs and limitations, such as delayed alerts. This paper introduces a novel solution aimed at revolutionizing property security by proposing an affordable system that harnesses the power of laser technology, Wi-Fi connectivity, and infrared (IDR) sensors. By addressing the shortcomings of existing security options, this innovative approach seeks to provide property owners with an accessible and effective means of detecting and responding to unauthorized access.

### Objective

The primary objective of this research is to develop a cost-effective and efficient security system that offers reliable intrusion detection for private properties. By combining laser technology, Wi-Fi connectivity, and infrared sensors, the proposed system aims to provide property owners with a practical and affordable solution to address the challenges posed by expensive security cameras and the lack of real-time alarm capabilities. This research seeks to democratize access to advanced security measures and significantly enhance the ability of property owners to safeguard their premises from trespassers and intruders.

### Problem Definition

The pervasive issue of unauthorized intrusion and trespassing on private property has become a substantial concern in modern society. Property owners, whether residential or commercial, grapple with the challenge of securing their premises effectively without incurring exorbitant costs. Traditional security camera systems, while providing surveillance, often come with steep price tags that can deter potential users, particularly those with limited budgets. Moreover, these systems might not offer the real-time alarm functionality required to promptly respond to unauthorized access.

Consequently, the existing security landscape presents a twofold problem. Firstly, the cost of implementing comprehensive security measures can be prohibitive, creating an inequitable situation where only individuals or organizations with substantial resources can afford adequate protection. Secondly, the lack of immediate alerts can lead to delayed responses, reducing the efficacy of security measures and allowing intruders to remain undetected or escape before appropriate actions can be taken.

This scenario underscores the need for an innovative solution that bridges the gap between affordability and effectiveness in property security. Addressing this problem requires a comprehensive reimagining of security systems, drawing on advancements in technology to create a solution that not only detects intrusion accurately but also communicates such events in real-time, ensuring timely responses and minimizing potential risks. By incorporating laser-based detection, Wi-Fi connectivity, and infrared sensors, this research aims to offer a remedy to these challenges and pave the way for a more inclusive and responsive approach to property security.

### LITERATURE SURVEY

### Existing System

### Traditional security camera systems have been the cornerstone of property surveillance for years. These systems rely on a network of cameras to monitor designated areas and record video footage for subsequent review. While effective in capturing visual evidence, they often suffer from drawbacks that limit their accessibility and functionality. One primary limitation is the high upfront and ongoing costs associated with camera installation, maintenance, and data storage. Additionally, the absence of real-time alarms can compromise the system's effectiveness in deterring and responding to intrusions promptly.

### Existing System Limitations:

The limitations of conventional security camera systems are multifaceted. The cost factor prohibits wider adoption, especially among individuals and small businesses with limited budgets. Moreover, the lack of immediate alerts hampers the system's ability to prevent or mitigate security breaches as they happen. False alarms triggered by environmental factors can also erode trust in the system's accuracy and create unnecessary disruptions.

**Proposed System**:

The proposed security system seeks to overcome the shortcomings of traditional security cameras by leveraging a novel combination of laser technology, Wi-Fi connectivity, and infrared (IDR) sensors. The system aims to establish a laser grid network that detects disturbances caused by intruders crossing the laser beams. Integrating Wi-Fi enables real-time communication and alerts to be sent to property owners' devices, ensuring immediate awareness of any intrusion. The inclusion of IDR sensors further enhances accuracy by detecting body heat signatures, minimizing the alarms.

**CONCLUSION**

The proposed laser-based security system, equipped with Wi-Fi connectivity and infrared sensors, represents a significant advancement in property protection. By addressing the shortcomings of traditional security cameras through a blend of precision, affordability, and real-time responsiveness, it has the potential to revolutionize how we safeguard our spaces. This innovation not only bridges the accessibility gap by offering cost-effective security but also empowers property owners to detect and respond to intrusions promptly. As the system evolves, it holds the promise of establishing a new standard in property security, making effective protection accessible to a wider range of individuals and businesses.