TOP STUDENT PROJECTS

Best innovations from VTU, Muddenahalli

PROJECT TITLE

MINI LI-FI COMMUNICATION SYSTEM

Team 07 - Cyber Squad

1. MANOHARA
2. VILAS
3. CHANDANA HAMPI
4. NISHANTH
4. ANKITHA POOJA . S
6. NAMRATHA



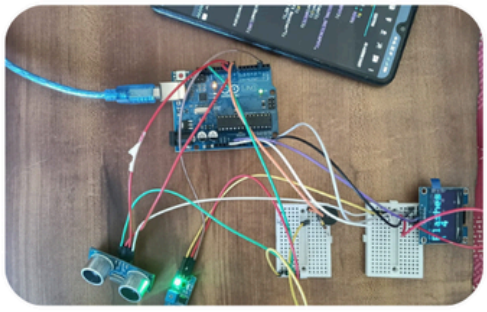


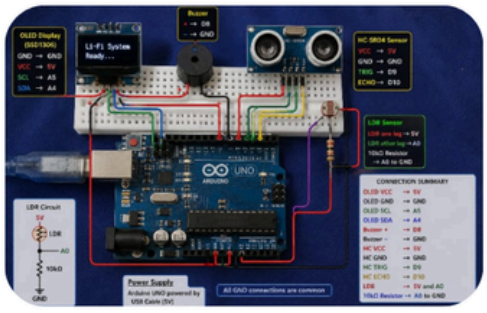
PROBLEM STATEMENT

The increasing demand for high-speed wireless communication has led to congestion in the radio frequency (RF) spectrum used by conventional technologies such as Wi-Fi and Bluetooth. The system aims to provide a cost-effective, energy-efficient, secure, and high-speed communication solution by transmitting information through rapid modulation of LED light that is imperceptible to the human eye.

SOLUTION

The proposed solution is the development of a Mini Li-Fi Communication System that enables wireless data transmission using visible light instead of conventional radio frequency signals. The system consists of a transmitter section and a receiver section built using microcontrollers, LEDs, photodetectors, and supporting electronic components. At the transmitter end, the input data, such as text messages or sensor information, is processed by a microcontroller and converted into binary signals. These signals rapidly modulate the intensity of an LED at very high speeds that are invisible to the human eye. The modulated light carries the encoded information through free space to the receiver section.





SCAN ME

Technology stacks:

Ex: HTML,CSS	Ex: Javascript	Ex: HTML,CSS	
Springboot	SQL	SQL	Ex: Javascript