**CODETECH Task-3**

**Intern Details**

* **Name**: S.S. Thirumalesh
* **Domain**: Internet of things(iot)
* **Member Type**: Individual

**TASK-1** **Progress Overview**

* **Task Assigned**:
  + IOT Security system
* **Work Done:**
  + Set up the platform for IOT Arduino.
  + Created folder for code using Arduino.
  + Implemented all the connections .
  + Tested by visual studio code using c ++.
  + Added some specific features .
  + Pushed Arduino code to GitHub repo.

**Project Details**

**Project Title:** IOT Security system

**Feature Implemented in Task-3 :**

* Project folder structure.
* Well-formatted Arduino code.
* Instructions given in command type

**Guidelines Followed:**

1. Kept commits meaningful and atomic.
2. Used by c++ code to changes by other users.
3. Clean and modular folder structure.
4. Committed and pushed changes with proper messages.

**GitHub Repository**

**GitHub Repository Link:**

*https://github.com/ThirumaleshFSD/codetech\_*

**Project Approach**

* **What were your thoughts when approaching the task?**

To create a clean and scalable to the approaching with asking detailed information on ChatGPT usage .

* **How did you plan to tackle the problem?**

Started by designing a simple schema for IOT Security system first clear approach on microcontrollers and discuss with my friend .

* **What steps did you take while working on the task?**
  + Setup project folder.
  + Installed dependencies.
  + Designed Arduino pins to connections.
  + Created Arduino code.
  + Pushed code to GitHub.
* **What did you learn from this process?**
  + Structuring the iot projects.
  + Writing code properly for our task requirement.
  + Connecting with code to Arduino .
  + Testing the code with completing the task

**Conclusion :**

The implementation of an IoT security system is essential in ensuring the integrity, confidentiality, and availability of data within connected devices and networks. As IoT devices become increasingly integrated into daily life and industrial applications, the risks associated with cyber threats also grow significantly. This report highlights the importance of a multi-layered security approach, incorporating secure authentication, encryption, network monitoring, and regular firmware updates to mitigate vulnerabilities. By proactively addressing these challenges, IoT security systems can help protect users, preserve trust, and support the safe expansion of smart technologies across various domains