

***DESIGN AND IMPLEMENTATION OF HOME DOOR  
SECURITY SYSTEM UTILIZING SOLENOID DOOR LOCK  
AND MAGNETIC SWITCH SENSOR WITH TELEGRAM-  
BASED NOTIFICATION AND CONTROL***

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***ABSTRACT***

*Currently, home security systems still rely on conventional locks that are prone to break-ins and do not provide real-time alerts. Conventional locks allow anyone with a duplicate key to access the house, and keys are often lost. To address this issue, a home door security system based on IoT with the ESP8266 microcontroller was developed. This system is equipped with a Solenoid Door Lock and a Magnetic Switch sensor. Integration with Telegram enables notifications when the door is opened and access to lock the door. A 4x4 keypad is provided as an alternative if the internet connection is lost. Testing results show the system functions well: accurate sensor detection, responsive password input, and quick notification reception. This system provides an effective and modern solution for home security.*

***Keywords:*** *Door Security, IoT, Solenoid Lock, Magnetic Sensor, Telegram*