CHAPTER 1
INTRODUCTION

Background

At this time the security of the house is still using a manual locking system that is by using a conventional key. The use of conventional keys is less practical these days. The use of conventional keys is also easy for thieves to open because the way thieves steal is increasingly opening the door of the house. With the development of current microcontroller technology, the security system can be carried out using electronic devices as a substitute for conventional key security systems. RFID is a system that can send and receive data by utilizing radio waves, consisting of 2 parts, namely: tag and reader.

Here is also added a camera module so that we can know who will enter. with the Decision Tree algorithm will make it easier to classify data.

Based on the explanation of the description that has been explained, the author aims to conduct a study entitled "KEY SYSTEMS USING SMARTPHONE CARD AND PHONE".

Problem Formulation

Based on the background that has been described, the formulation of the problem to complete this final project is as follows:

1. How to connect Nodemcu with Relay for switch Solenoid?

2. How to implement rule-based Decision Tree logic on a security system using Nodemcu?

3. How does Tasmota work in this Lock System.

Scope

Based on the formulation of the problem that has been described, there are several limitations to the problem of building a system, including the following:

1. The Microcontroller used is Nodemcu.
2. RFID Tag to read a card.
3. Relay to switch on off Solenoid.
4. Solenoid functions as an electronic lock the Solenoid valve will be attracted if there is a voltage and vice versa.
5. Esp 32 Cam works to see who will enter.

Objective

To make it easier for users if the Card is missing, this Door can be Opened using a Smartphone, and vice versa if the Smartphone is left behind, it can be opened using a Card. And I added an alternative this Door can be opened using a code on the RFID.