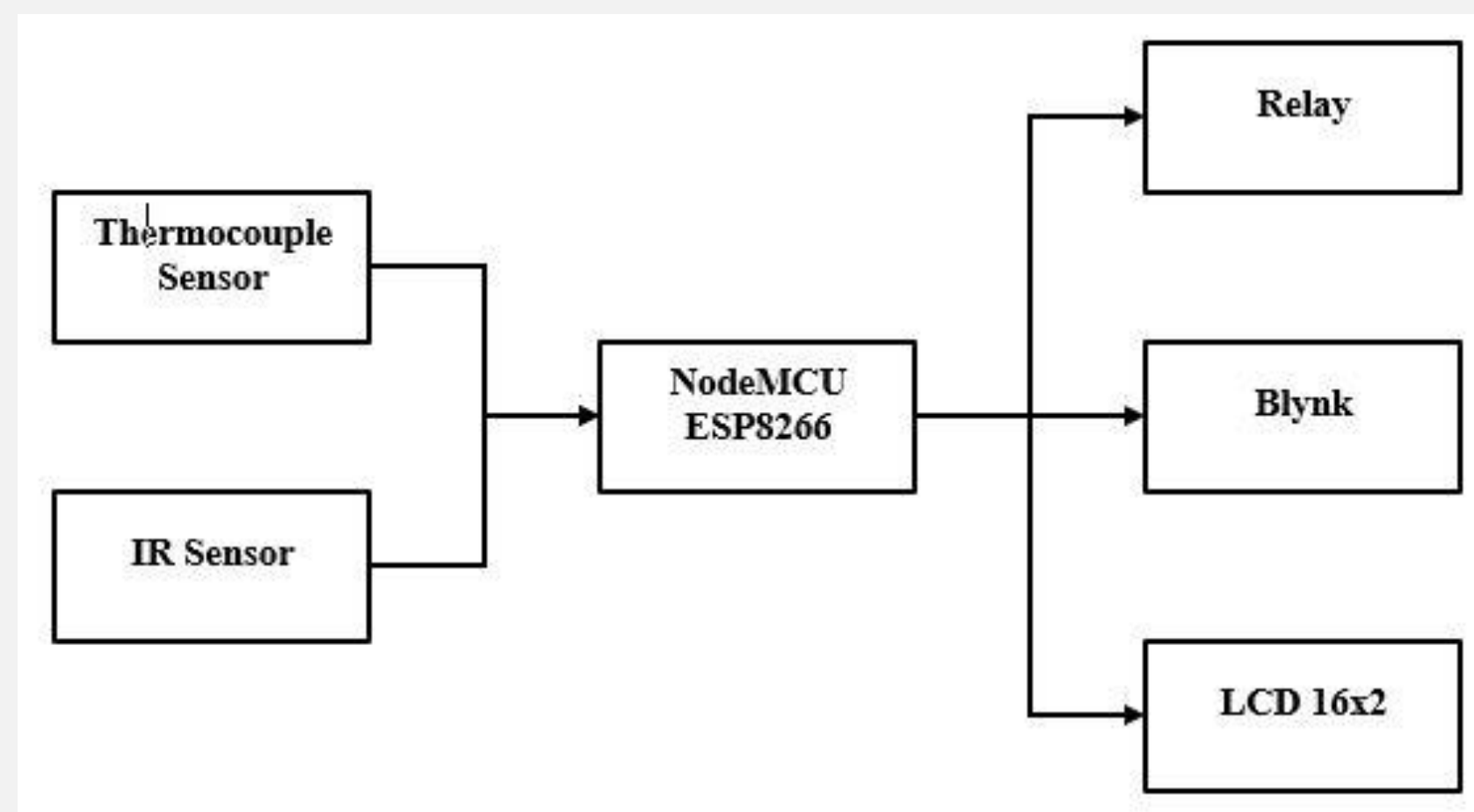


Automatic Stove Control System Based on the NodeMCU ESP8266 Microcontroller

Introduction

The stove is a very useful tool for humans. The use of stoves in everyday life brings beneficial and detrimental impacts. A stove is a tool used to help human activities, but the impact of its weakness can cause household accidents caused by the negligence of the community itself. The NodeMCU-based automatic hob was built to address this problem. This stove can set the cooking time and automatically stop working at the specified time. This stove can also turn off automatically if the sensor does not detect the presence of people around to minimize the occurrence of household accidents. This automatic stove is expected to be a technological reformer in household appliances as well as a solution to reduce the number of accidents caused by stoves.



Result & Discussion

The Component of the tool will be described as follows; 12V power supply, Step Down, NodeMCU ESP8266, Max6675 Type-K Thermocouple, Relay, SSR, An electrical stove socket. Infrared Sensor, LCD.

The mechanics of this tool are pretty simple. In the blynk application, there are 2 buttons to turn on the program (button 1 for automatic, button 2 for manual).

Here is how the button 1 works:

1. Press button 1 on the Blynk app.
2. The thermocouple sensor reads the temperature of the food.
3. When the temperature is below 140 degrees Celsius, the stove is on. The stove turns off when the temperature is above or equal to 140 degrees Celsius.

And for button 2, it is a button to turn on and off the stove manually, by using a smartphone. On button 2, there is an infrared sensor when the stove is on and no one is detected around the stove, the stove automatically turns off in a few minutes.

