CHAPTER 4
ANALYSIS AND DESIGN

4.1 Analysis

This project uses multiple devices, there are Arduino, ESP8266, Motor Shield, and remote toy car. Arduino UNO is microcontroller which is used as a control center. Arduino contains all programs to read commands from IoT server. Command on IoT server received from Thingspeak application. ESP8266 is a Wifi module used for arduino connections to the internet. Motor shield is used to take power from outside arduino to run dc motor.
4.2 Desain

4.2.1 Flowchart

First, the arduino will connect with the wifi that has been set to connect to the internet, then Arduino get IP from WiFi or access point for internet access, then Arduino will read data from thingspeak. If the value is “0”, the arduino will command the motor to the off position. If the value is “1” arduino will command
the rear motor to move forward. If the value is “2” arduino will command the front motor turn left and the rear motor forward. If the value is “3” arduino will command the front motor turn right and the rear motor to forward. If the value is “4” arduino will command the rear motor backwards. If the value is “5” arduino will command the front motor turn left and the back motor backwards. If the value is “6” arduino will command the front motor turn right and the back motor backwards.