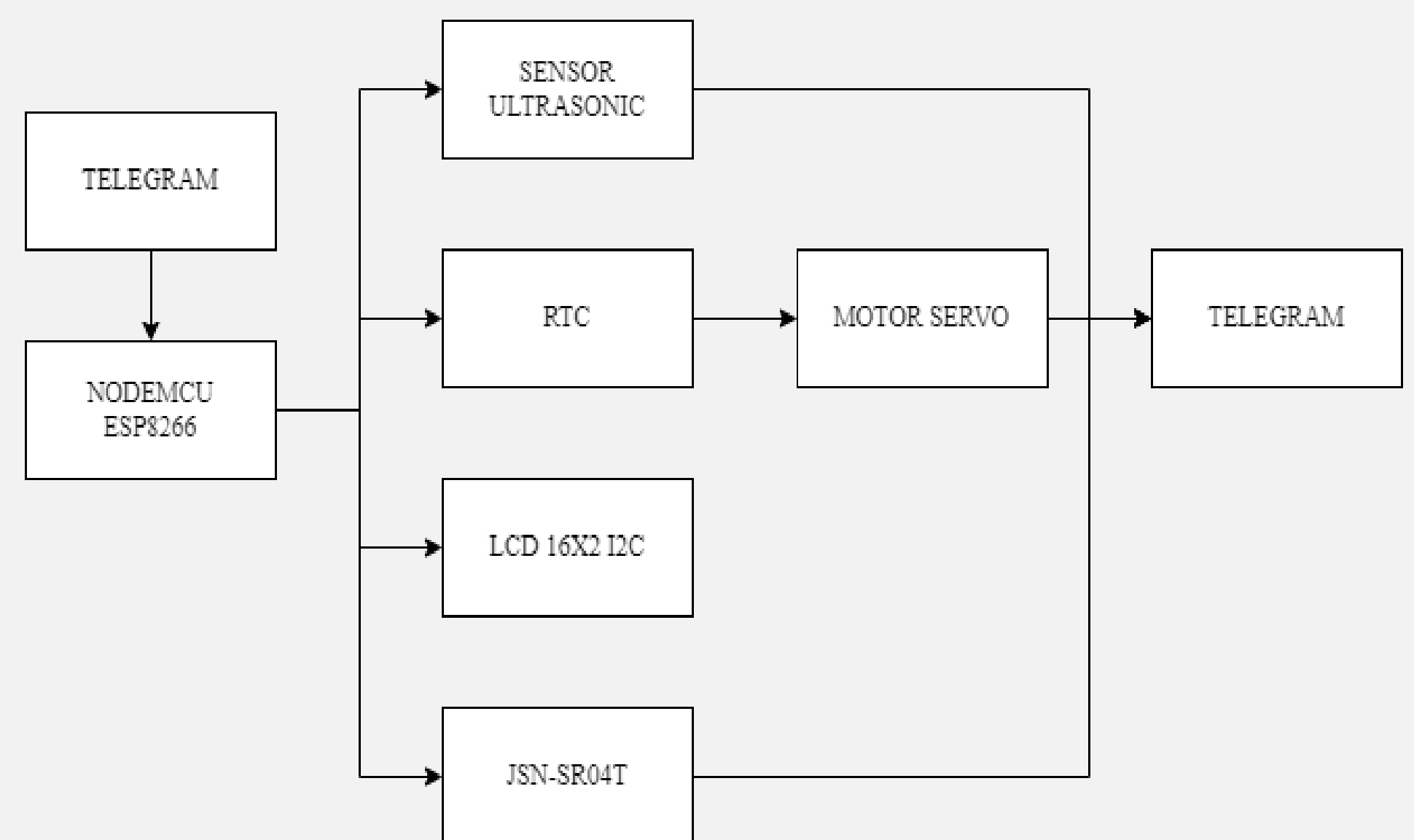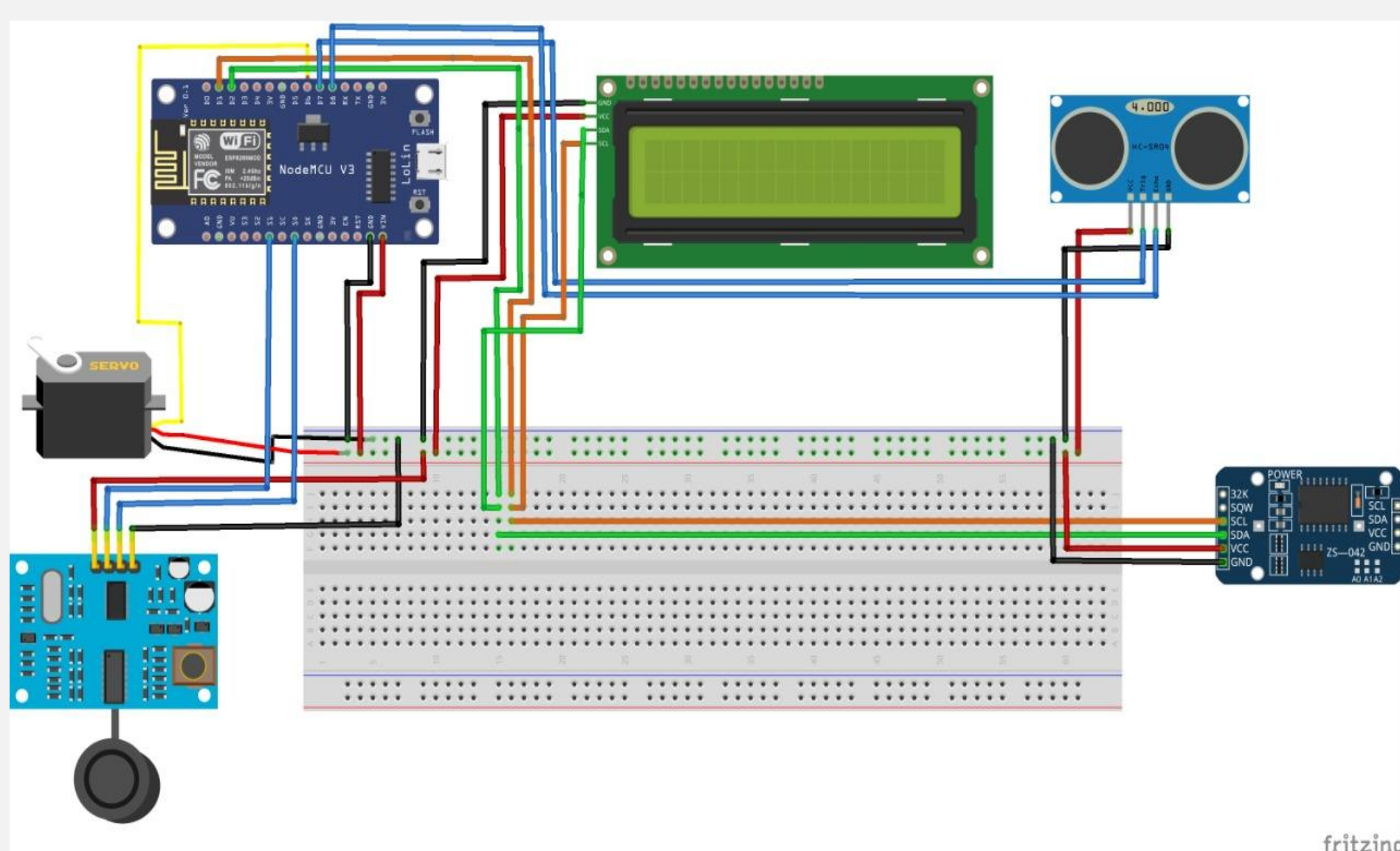# *Automatic Fish Feeder And Telegram Based Aquarium Water Level Monitoring*

Introduction

An important factor in maintaining fish in an aquarium is the timeliness of feeding fish. Most fish keepers are worried about the aquarium's feeding and water conditions, which must be done every day. Therefore, an automatic fish feeding tool and telegram-based monitoring of aquarium water levels were made to make it easier for fish keepers and aquarium owners to provide and monitor fish feed automatically according to a predetermined schedule. Monitoring the remaining feed and water level in the aquarium is done via Telegram. The components used in this tool are Esp 8266 as a microcontroller, RTC as a timer for scheduling fish feed, Ultrasonic as a detector for remaining fish feed, JSN-SR04T as a water level detector, LCD to display time and date as well as notifications and a servo motor functions to open and close the fish feed. The conclusion from the results obtained from this device is that the device works well and helps the aquarium owner to monitor and feed efficiently, despite some challenges such as delay due to poor internet connection.

Result & Discussion

Following is the result of the realization tool. Figure is the result of tool realization components of the tool will be described with the following numbering; 1. HC-SR04, 2. NodeMCU ESP8266, 3. JSN-SR04T, 4. RTC DS3231, 5. Servo Motor, 6. LCD
How to use this tool is as follows: 1. The user opens Telegram and opens the telegram chatbot that has been made. 2. Write "start" to start the bot with the tool. 3. Then write "menu", and several menus appear 1 = Feeding now 2 = Feeding arrangements 3 = View the latest meal times 4 = Last feeding 5 = Leftover feed 6 = water level 4. And we choose a number on the menu to do what we want. 5. For example, we want to feed now. Then we write number 1 in the telegram chatbot, and the tool will work according to orders. 6. If we want to know the rest of the fish feed in the fish meal container, we write number 5 on the telegram chatbot.