

Mihail-Andrei BĂNICĂ (87566) - Existential Robot

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Introduction

“Existential Robot” is a prototype for an independent robot. His main activities are moving around and expressing his feelings about life in general.

General Description

The Robot will move around in a random pattern - on wheels, powered by two DC motors, one for each side. The motors will be integrated with ATmega324 using a L298N motor driver. The Robot will be careful not to hit something; so, two infrared sensors will send information about near obstacles.

For voice, .ad4 audio files will be played through a speaker from a SD card connected to WTV020-SD audio module.

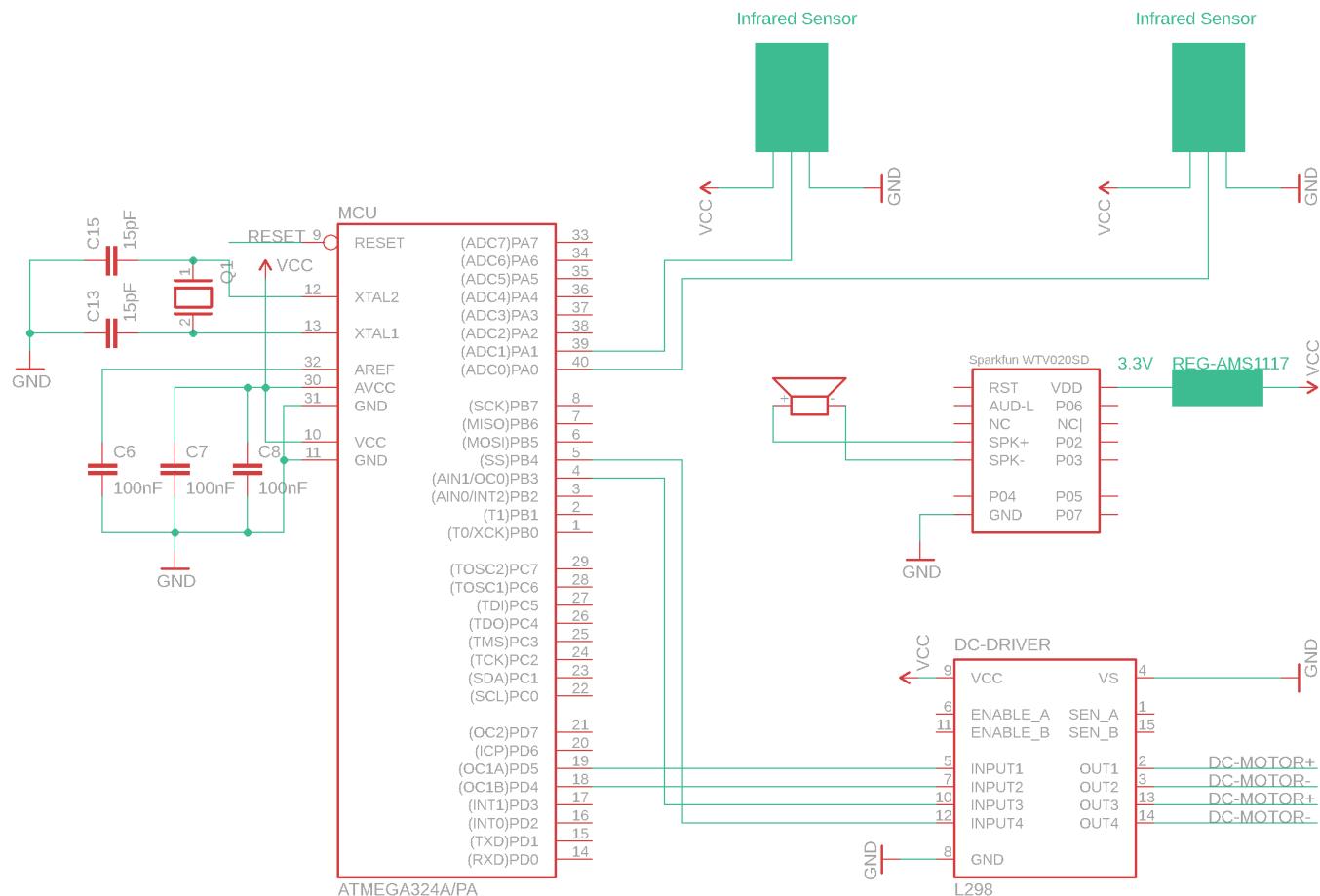


Hardware Design

Components

Name	Description
PM2019	PCB
L298N	Motor Driver
-	DC Motor
WTV020-SD	Audio Module
SparkFun 0.25W	Speaker
AMS1117-3.3 3.3V	Voltage stabilizer
LM393(based)	Infrared Sensor

Electrical Scheme

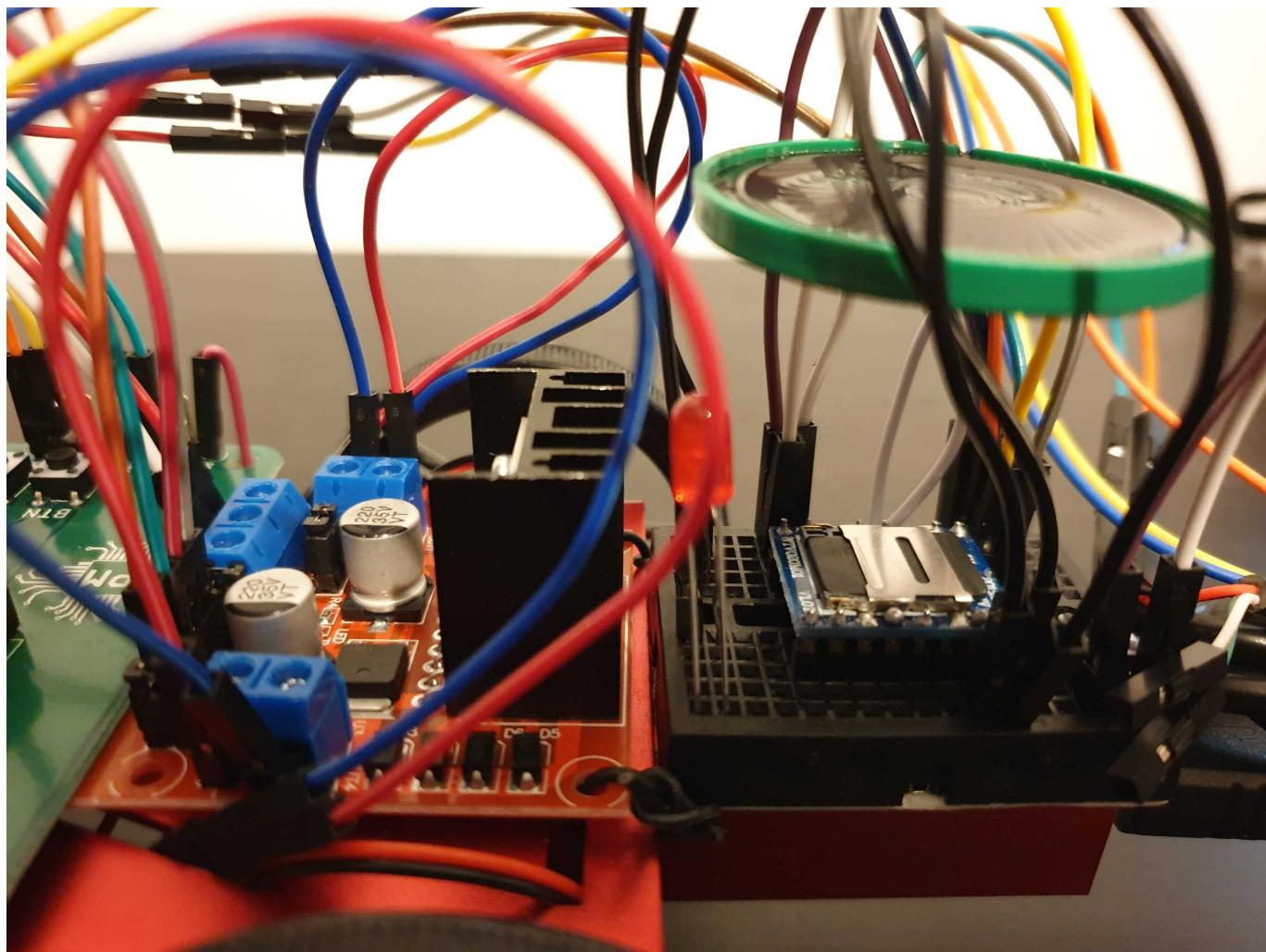


Software Design

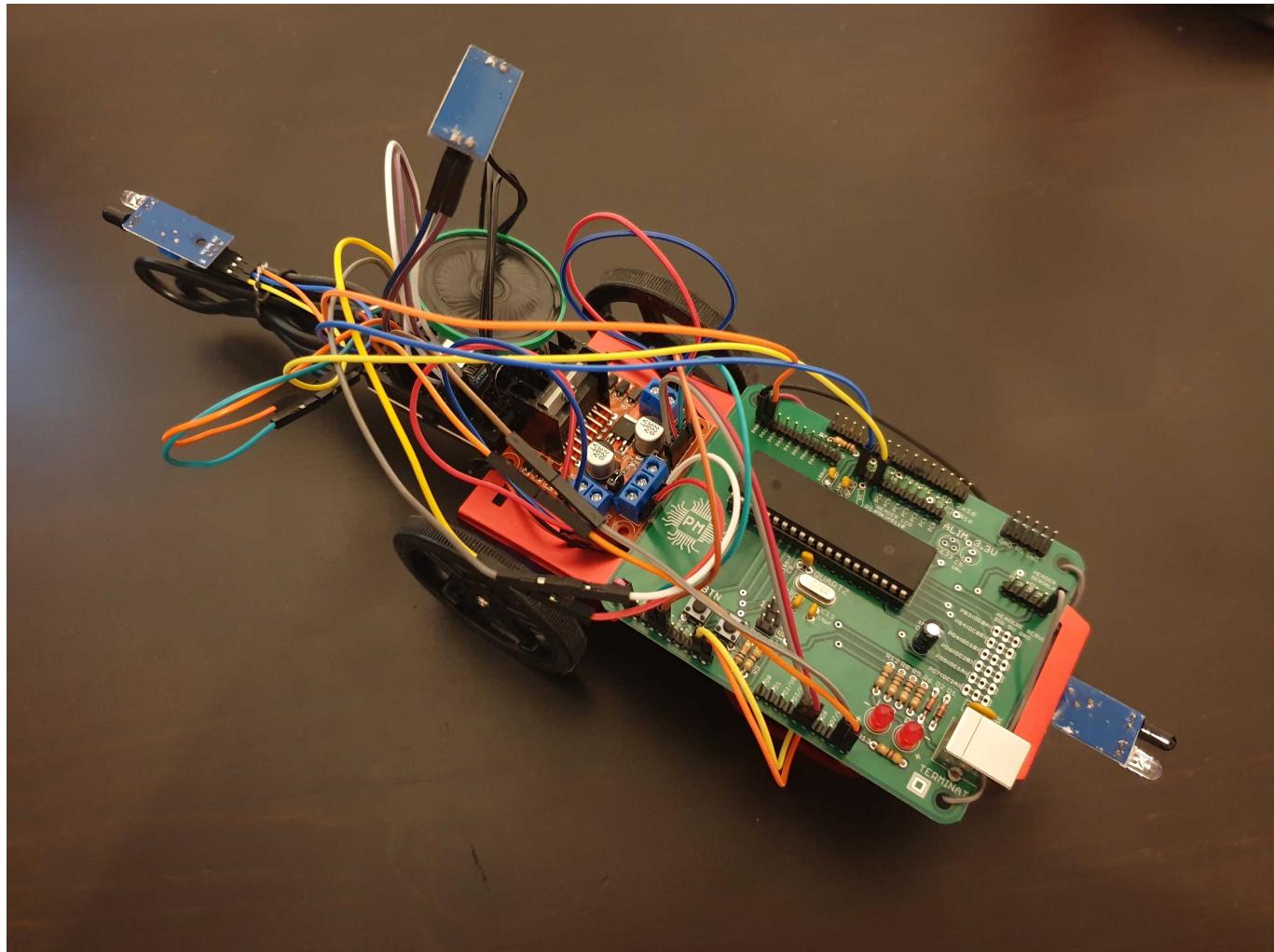
I used Timer0 and Timer1 for PWM. Implemented an algorithm for random movements using information from infrared sensors.

Results

Audio module and motor driver.



Overview.



Conclusions

The design could be better.

An overall awesome experience, I got to see what IoT means.

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[existential_robot.zip](#)

Bibliography

WTV020-SD MODULE [WTV020SD.pdf](#)

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Last update: **2021/04/14 15:07**