Telefon orqali boshqariladigan tozalovchi mashina yaratish

Dilsabakhon Djuraevna Rustamova
Alisher Shakirovich Ismailov
ORCID: 0000-0002-8372-5108
alisherismailov1991@gmail.com
Gulnoza Qodirova
Maftuna Yigitaliyeva
Rayxona Xusanova
TMI Andijan Faculty

Annotatsiya: Ushbu loyihaning maqsadi kollejlar, shifoxonalar, aeroportlar, auditoriyalar, savdo markazlari va ustaxonalarda pollarni tozalaydigan qurilma yaratish. Ushbu loyihaning maqsadi nam va quruq yuzalarga ega bo‘lgan polni tozalash uchun Arduino mashinani loyihalash va ishlab chiqarishdir. Bu ho‘l va quruq pollarni tozalash uchun juda foydali. Xonani tozalash bizning salomatligimiz uchun juda muhim va bu pol tozalash mashinasi tozalash uchun zarur bo‘lgan kuchni kamaytiradi. Shuning uchun bu loyiha bugungi hayotimizda juda foydali hisoblanadi. Qurilish jihatidan juda oddiy va ishlatish oson, har kim bu mashinani osongina boshqarishi mumkin. Xonani tozalash mashinasi DC motor, AC to DC konvertori, ko‘pikli cho‘tka, ko‘pikli artgich va shimgichdan iborat. Asosiy texnologiyalar va jarayonlar tahlil qilinadi va mavjud dramatizatsiya va razvedka kamchiliklari umumlashtiriladi. Rivojlangan mamlakatlarning yetuk texnologiyasiga tayanib, biz muammoning mohiyatini topamiz va Hindistonda tozalash texnikasini avtomatlashtirish va intellektual rivojlantirish yo‘lini ko‘rsatamiz. Ushbu korxona polni tozalash mashinasining dizayni va ishlab chiqarishini boshqaradi. Ushbu tashabbusning maqsadi polni nam va quruq tozalash jarayonini yaratish va modernizatsiya qilishdir. U nam va quruq sirtda ishlatilishi mumkin.

Kalit so’zlar: telefon, tozalovchi mashina, loyiha

Creating a phone-controlled cleaning machine

Dilsabakhon Dzhuraevna Rustamova
Alisher Shakirovich Ismailov
ORCID: 0000-0002-8372-5108
alisherismailov1991@gmail.com
Gulnoza Kadirova
Maftuna Yigitaliyeva

Raykhana Khusanova
TFI Andijan Faculty

Abstract: The aim of this project is to create a device that can clean floors in colleges, hospitals, airports, auditoriums, shopping malls and workshops. The goal of this project is to design and manufacture an Arduino machine for cleaning floors with wet and dry surfaces. It is very useful for cleaning wet and dry floors. Cleaning the room is very important for our health and this floor cleaner reduces the effort required for cleaning. Therefore, this project is very useful in our life today. Very simple in construction and easy to operate, anyone can easily operate this machine. The room cleaner consists of a DC motor, an AC to DC converter, a foam brush, a foam mop and a sponge. Key technologies and processes are analyzed and existing dramatization and intelligence gaps are summarized. Relying on the advanced technology of developed countries, we will find the essence of the problem and show the way to automate and intelligently develop the cleaning technique in India. This enterprise manages the design and production of the floor cleaning machine. The goal of this initiative is to create and modernize the wet and dry floor cleaning process. It can be used on wet and dry surfaces.

Keywords: telephone, cleaning machine, project

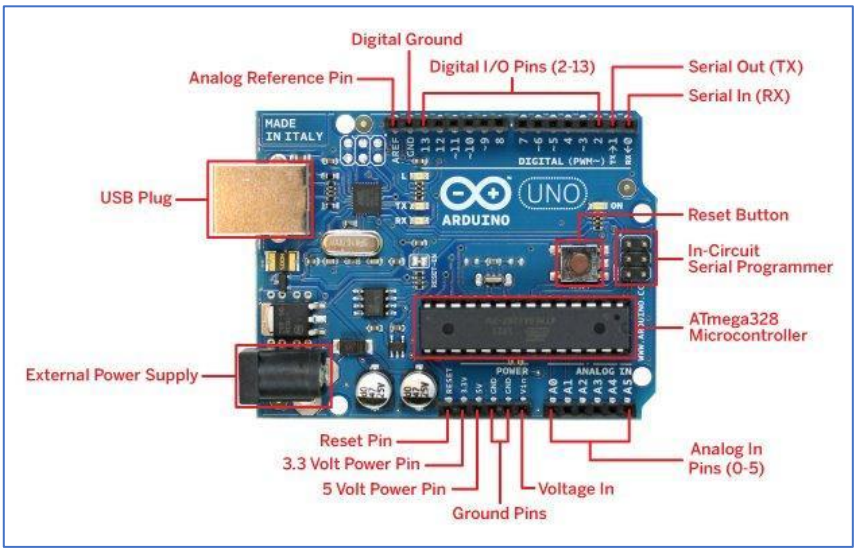
Kirish

Loyiha tozalash dasturi uchun to‘liq birlashtirilgan. Unda suv ta’minoti, skrab va fan kabi polni tozalash uchun zarur bo‘lgan talablar mavjud. Bu harakatni boshqarishga ega g‘ildirakli turdagi mashina. Ushbu polni tozalash mashinasi g‘ildiraklarni va skrab uchun aylanadigan narsalarni boshqaradigan bir nechta AC motorlardan iborat. Dvigatellarning simlari to‘g‘ri ishlab chiqilgan bo‘lib, g‘ildiraklar boshqaruvni hisobga olgan holda ikkita ikki tomonlama kalitlardan iborat. Bosish tugmasi, shuningdek, skrab sifatida aylanadigan ob'ektlarni ON/OFF kaliti sifatida o‘rnatiladi. Plastik quvurlar, shuningdek, teshiklari va polga tozalash suyuqligining chiqishini boshqaradigan eshik valfi bo‘lgan mo‘ljallangan. Mashina nazorat moslamasiga ulangan LAN simlari yordamida ulanadi, kontroller esa AC ta'minotiga ulangan. Ushbu loyiha polni tozalash bo‘yicha bir nechta tadbirlar uchun qo‘llaniladi. Braketni aylantirish uchun zarur bo‘lgan moment taxminan 16 NM ni tashkil qiladi. Dvigatel 1440 aylanish tezligida 4,94 NM beradi. Dvigatel miliga kichikroq g‘altak o‘rnatiladi va kattaroq kasnak asosiy milga o‘rnatiladi, shunda tezlik 360 rpm ga kamayadi va moment 19 NM gacha oshiriladi. Shunday qilib, vosita hech qanday yuk olmasdan ishlaydi. Ushbu ish uy xo‘jaligi uchun foydali bo‘lishi mumkin bo‘lgan ixcham pol tozalagichni loyihalashga qaratilgan. keyinchalik olib tashlanishi uchun saqlangan. Bunga 12v kuchlanishli vakuumli nasos yordamida qoldiq kamerasi

biriktirilgan holda erishiladi. Keyingi maqsad, polga suv sepish orqali amalga oshiriladigan sirtni nam qilishdir. Maqsadga erishiladi.

Aduino orqali tozalov mashina

Dvigatel va sprinkler tizimidan foydalanish. Ushbu tizimda dush kabi chiqish joyi va chiqishi doimiy tok motorli nasos tomonidan boshqariladigan kamera mavjud. Yuzaki skrubberni tozalash uchun polni siljitish yoki tozalash kerak. Kirni butunlay olib tashlash kerak va qoldiqlar bilan to‘ldirilgan suv botning orqa tomoniga oqib o‘tadi. skrubber qisqichlar yordamida shassisga o‘rnatiladi. Skrubberning konstruktsiyasi bir tomonini dvigatelga, ikkinchisini esa rulmanga mahkamlashni o‘z ichiga oladi. Rulman shassisga mahkamlangan. Tizimning orqa qismida axlat bilan to‘ldirilgan iflos suvni so‘rish uchun vakuum mexanizmi ishlatiladi.



1-rasm. Arduino Uno

Arduino Uno - bu kontroller ATmega328 mikrokontrolleri asosida yaratilgan bo‘lib, platforma 14 ta raqamli kirish/chiqish, sifatida foydalanish mumkin), 6 analog kirish, 16MGsli kvarsli generator, USB porti, kuchlanish porti, ICSP porti va qayta yuklash tugmasidan iborat.

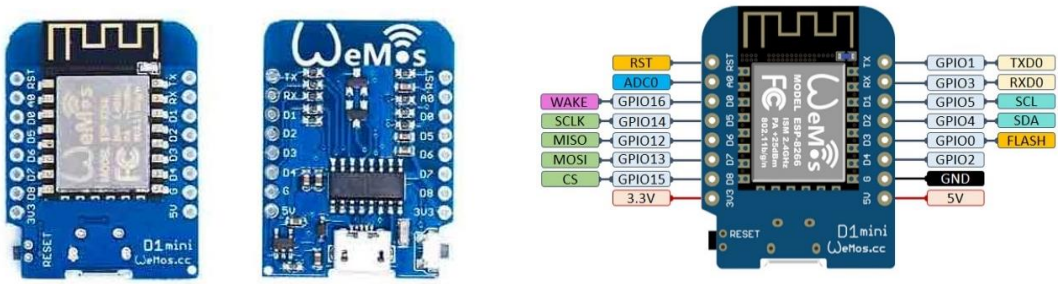
Arduino Uno haqida qisqacha:

Mikrokontroller	ATmega328
Ishlash kuchlanishi	5 V
Kirish kuchlanishi(tavsiya etilgani)	7-12 V
Kirish kuchlanishi(eng yuqori)	6-20 V
Raqamli kirish/chiqish	14 ta(ulardan 6tasi KIM(Широтно-Импульсная модуляция)
sifatida foydalanish mumkin)	
Analog kirish	6 ta
Kirish/chiqish orqali o‘zgarmas tok	40 mA
3.3 V kiritish uchun o‘zgarmas tok	50 mA
Flesh xotira	32 KB(ATmega328) undan 0.5 KB yuklovchi sifatida foydalaniladi
Tezkor xotira	2 KB(ATmega328)
EEPROM	1 KB(ATmega328)
Chastota	16 MGs

Bundan tashqari, Arduino Uno qurilmasi unga ulangan USB yoki tashqi manbadan kuchlanish olishi mumkin. Bunda, agar manba bir nechta bo‘lsa, ulardan biri avtomatik tanlanadi.

Arduino Uno kontrolleri asosi ATmega328 mikrokontrolleridan tashkil topgan. Bu mikrokontroller 32 kB flesh xotiraga, undan 0.5 kB qismi yuklovchi uchun ajratilgan, bundan tashqari 2 kB tezkor xotiraga va 1 kB EEPROMga ega.

14 ta raqamli chiqishning har biri yoki kirish yoki chiqish uchun sozlash mumkin. Bunda *pinMode()*, *digitalWrite()* va *digitalRead()* funksiyalaridan foydalaniladi. Bunda har bitta chiqish joyi 20-50 kOm qarshilikka va 40 mAgacha tok kuchi o‘tkazishi mumkin.



2-rasm.Wemos D1 mini

Mini D1 Wifi ESP-12F N ESP8266 xususiyatlari

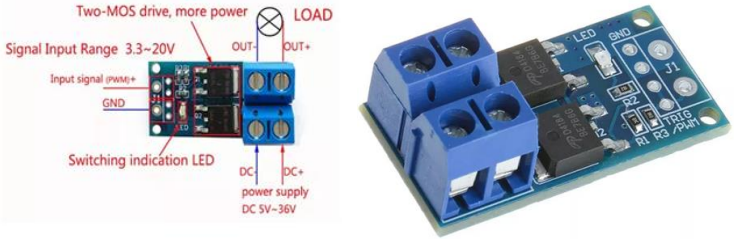
1. ESP-8266EX asosida
2. Arduino mos, Arduino IDE bilan dasturlash
3. 11XI / O pin
4. 1XADC pin (kirish 0-3.3V)
5. Internetda OTA-ni qo‘llab-quvvatlang
5. 5V 1A bortida quvvat manbai (maksimal kirish 24V)

3-rasm. Simlar

Simlarning vazifasi ulash va signalarni chiqishi

4-rasm.Matorlar

5 dona 3V-12V DC 70mA (3V) Robot Intelligent Car DIY Ikki valli tishli TT Dvigatel Robot Avtomobil Avto uchun MCU 7x2.2x1.8cm



5-rasm. Tranzistor

Tranzistorlar tuzilishi, ishlash prinsipi va parametrlariga koʻra 2 ta sinfga ajratiladi - bipolyar va maydoniy (unipolyar) tranzistorlar. Bipolyar tranzistorlarda ikkala turdagi (p-tipli va n-tipli) oʻtkazuvchanlikka ega boʻlgan yarimoʻtkazgichlar ishlatiladi. Bipolyar tranzistor, oʻzaro yaqin joylashgan p-n oʻtish hisobiga ishlaydi va baza-emitter oʻtishi orqali tokni boshqaradi. Maydoniy tranzistorlarda faqat bir turdagi (n-tipli yoki p-tipli) yarimoʻtkazgichlar ishlatiladi. Bunday tranzisorlarning bipolyar tranzistorlardan asosiy farqi shundaki, ular kuchlanishni boshqaradi, tokni emas. Kuchlanishni boshqarish zatvor va istok orasidagi kuchlanishni oʻzgartirish orqali amalga oshiriladi.

Hozirgi kunda analog texnikalar olamida bipolyar tranzistorlar (BT) (xalqaro atama - BJT, *Bipolar Junction Transistor*) asosiy oʻrinni egallagan. Raqamli texnikalar sohasida esa, aksincha maydoniy tranzistorlar bipolyar tranzistorlarni siqib chiqargan. Oʻtgan asrning 90-yillarida, hozirgi davrda ham elektronikada keng miqyosda qoʻllanilayotgan bipolyar-maydoniy tranzistorlarning gibrid koʻrinishi - IGBT ishlab chiqildi.

6-rasm.Batareya bo‘limi

KLS FC1-5165 (TBH-C-3A-W), Batareya bo‘limi 3xC

Kodlash

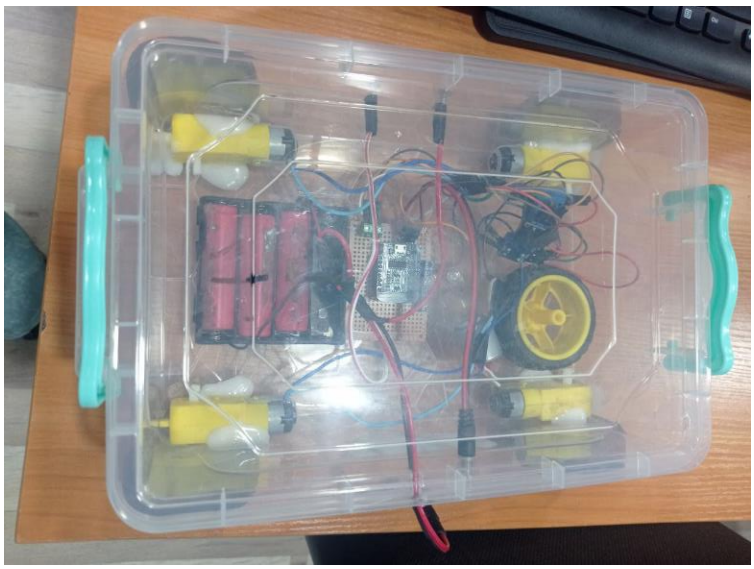
```
/*
 * ESP8266 NodeMCU LED Control over WiFi Demo
 *
 * https://circuits4you.com
 */
#include <ESP8266WiFi.h>
#include <WiFiClient.h>

//ESP Web Server Library to host a web page
#include <ESP8266WebServer.h>
#include <SoftwareSerial.h>

//SoftwareSerial SerialWe (D5, D6);

String data;

//---------------------------------------------------------------
//Our HTML webpage contents in program memory
const char MAIN_page[] PROGMEM = R"=====(
<!DOCTYPE html>
<html>
<head>
<style>
.button {
 background-color: #4CAF50;
 border: none;
 color: white;
 padding: 15px 32px;
 text-align: center;
 text-decoration: none;
 display: inline-block;
 font-size: 16px;
 margin: 4px 2px;
 cursor: pointer;
}
```

```
</style>
</head>
<body>
<center>
<h1>Mashina Boshqarish</h1><br>
<a href="ledOff" style=width:100px;height:45px class="button">Yurgazish</a><br>
<a href="ledOn" style=width:100px;height:45px class="button" >To`xtatish</a><br>
<a href="ledLeft" style=width:100px;height:45px class="button">O`ngga</a><br>
<a href="ledRight" style=width:100px;height:45px class="button">Chapga</a><br>

<hr>
</center>

</body>
</html>
)=====";
//------------------------------------------------------------
//On board LED Connected to GPIO2
#define Motor1 D4
#define Motor2 D3

//SSID and Password of your WiFi router
const char* ssid = "crud";
const char* password = "margilon";

//Declare a global object variable from the ESP8266WebServer class.
ESP8266WebServer server(80); //Server on port 80

//===============================================================
// This routine is executed when you open its IP in browser
//===============================================================
void handleRoot() {
 Serial.println("You called root page");
 String s = MAIN_page; //Read HTML contents
 server.send(200, "text/html", s); //Send web page
}

void handleLEDon() {
 Serial.println("LED on page");
 digitalWrite(Motor1,HIGH); //LED is connected in reverse
 digitalWrite(Motor2,HIGH); //LED is connected in reverse
 String s = MAIN_page; //Read HTML contents
 server.send(200, "text/html", s); //Send ADC value only to client ajax request
 //SerialWe.write("1");
}

void handleLEDoff() {
 Serial.println("LED off page");
 digitalWrite(Motor1,LOW); //LED is connected in reverse
 digitalWrite(Motor2,LOW); //LED is connected in reverse
 String s = MAIN_page; //Read HTML contents
 server.send(200, "text/html", s); //Send ADC value only to client ajax request
//SerialWe.write("2");
}
void handleLEDLeft() {
```

```
 Serial.println("LED Left");
 digitalWrite(Motor1,HIGH); //LED is connected in reverse
 digitalWrite(Motor2,LOW); //LED is connected in reverse
 String s = MAIN_page; //Read HTML contents
 server.send(200, "text/html", s); //Send ADC value only to client ajax request
//SerialWe.write("3");
}

void handleLEDRight() {
 Serial.println("LED Right");
 digitalWrite(Motor1,LOW); //LED is connected in reverse
 digitalWrite(Motor2,HIGH); //LED is connected in reverse
 String s = MAIN_page; //Read HTML contents
 server.send(200, "text/html", s); //Send ADC value only to client ajax request
//SerialWe.write("4");
}

//================================================================
// SETUP
//================================================================
void setup(void){
 Serial.begin(115200);
 // SerialWe.begin(9600);

 WiFi.begin(ssid, password); //Connect to your WiFi router
 Serial.println("");

 //Onboard LED port Direction output
 pinMode(Motor1,OUTPUT);
 pinMode(Motor2,OUTPUT);
 //Power on LED state off
 digitalWrite(Motor1,LOW);
 digitalWrite(Motor2,LOW);
 // Wait for connection
 while (WiFi.status() != WL_CONNECTED) {
 delay(500);
 Serial.print(".");
 }
//If connection successful show IP address in serial monitor
 Serial.println("");
 Serial.print("Connected to ");
 Serial.println(ssid);
 Serial.print("IP address: ");
 Serial.println(WiFi.localIP()); //IP address assigned to your ESP

 server.on("/", handleRoot); //Which routine to handle at root location. This is display page
 server.on("/ledOn", handleLEDoff); //as Per <a href="ledOn">, Subroutine to be called
 server.on("/ledOff", handleLEDon);
 server.on("/ledLeft", handleLEDRight);
 server.on("/ledRight", handleLEDLeft);

 server.begin(); //Start server
 Serial.println("HTTP server started");
}
//================================================================
```

```
// LOOP
//=======================================================================
void loop(void){
 server.handleClient(); //Handle client requests
}
```

Sinov



Xulosa

Shunday qilib, biz loyihamizda AC Dvigatel va kamar uzatmasi yordamida polni avtomatik tozalash mashinasini ishlab chiqdik. Mashina oson ishlash va inson kuchini kamaytirish uchun mo‘ljallangan. Hatto bolalar va qariyalar ham ushbu mashinani boshqarishi mumkin, bu mashinada hech qanday muhim operatsiyalar kerak emas. Ushbu loyihaning yakuniy ehtiyoji qondiriladi va bu mashina yordamida biz polni osongina tozalashimiz mumkin. Shunday qilib ishlab chiqilgan mahsulot to‘liq ishlaydi va kerakli harakatni beradi. Muvaffaqiyatli natijaga olib keladigan xonada sinovdan o‘tkazilmoqda.

Foydalanilgan adabiyotlar

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