



# SISTEMA RECOLECTOR DE LATAS DE ALUMINIO EN LA PLAYA LA CHIRA - CHORRILLOS

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Llantas Traseras (grandes):  
Diámetro 11.3 cm  
Aros traseros (grandes):  
Diámetro 10 cm

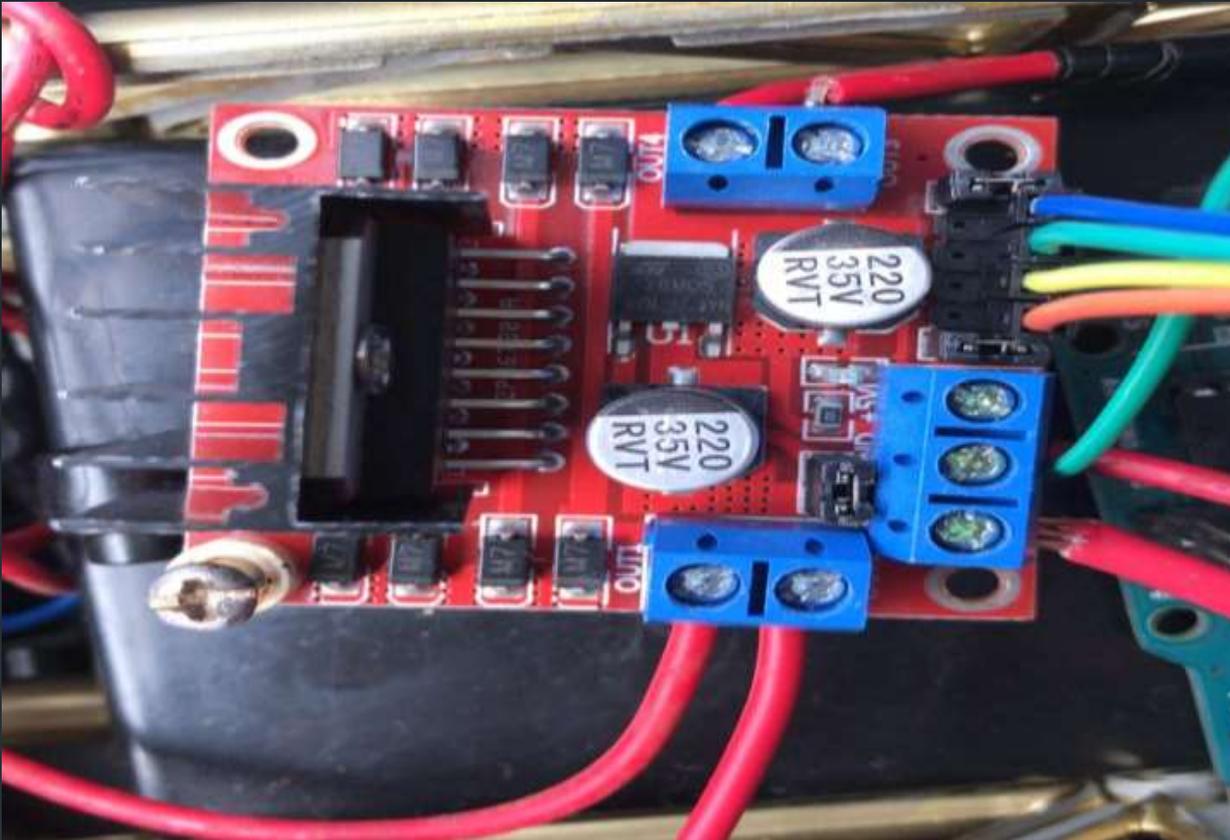
Llantas Delanteras  
(pequeñas):  
Diámetro 10 cm  
Aros delanteras (pequeñas):  
Diámetro 7.1 cm



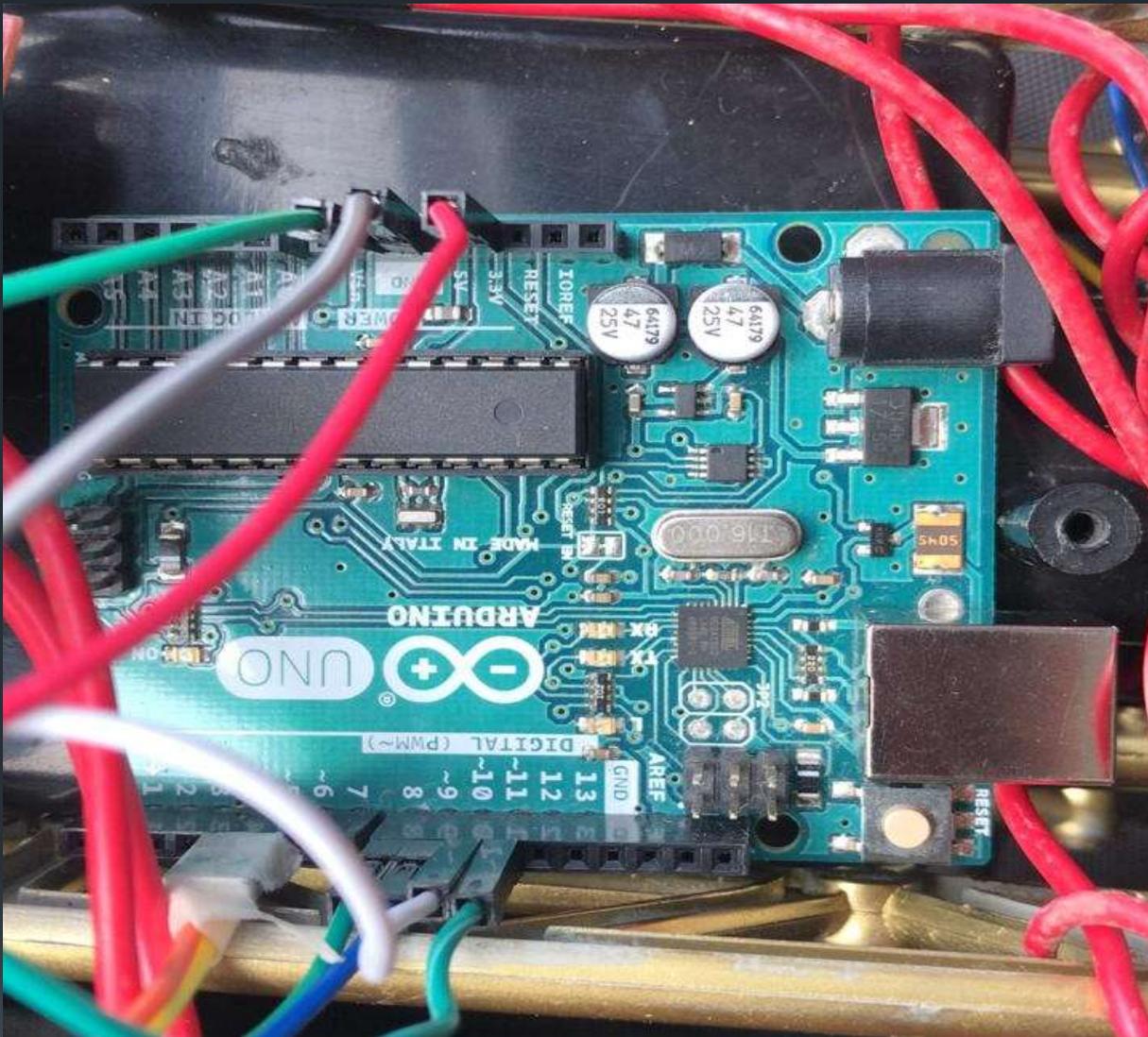
HC - 05



MOTOR DC 12 V



Puente H para controlar los motores del móvil



ARDUINO UNO

# PROGRAMA

## CodigoArduinoMovimiento\_V2

```
#define M1A 4 //IN1
#define M1B 5 //IN2 // MOTOR 1 MOTOR DE AVANCE

#define M2A 8 //IN4
#define M2B 9 //IN3 // MOTOR 2 MOTOR DE DIRECCION

#include <SoftwareSerial.h>
SoftwareSerial BT(10, 11); // RX | TX

int tiempo=0;
char dato;
char count;
int t=1;
int t2;

void setup() {
  //Configuramos todos los pines de control como output
  pinMode(M1A, OUTPUT); //M1A 1 indica avance
  pinMode(M1B, OUTPUT); //M1B 1 indica retroceso
  pinMode(M2A, OUTPUT); //M2A 1 indica izquierda
  pinMode(M2B, OUTPUT); //M2B 1 indica derecha

  BT.begin(9600);
  // Iniciamos el serial al que está conectado el módulo bluetooth
  Serial.begin(9600);
}
```

## CodigoArduinoMovimiento\_V2

```
void avanzar_recto() { // dato 1
  digitalWrite(M1A, HIGH);
  digitalWrite(M1B, LOW);
  digitalWrite(M2A, LOW);
  digitalWrite(M2B, LOW);
}

void avanzar_izquierda() { // dato 2
  digitalWrite(M1A, HIGH);
  digitalWrite(M1B, LOW);
  digitalWrite(M2A, HIGH);
  digitalWrite(M2B, LOW);
}

void avanzar_derecha() { // dato 3
  digitalWrite(M1A, HIGH);
  digitalWrite(M1B, LOW);
  digitalWrite(M2A, LOW);
  digitalWrite(M2B, HIGH);
}

void retroceder_recto() { // dato 4
  digitalWrite(M1A, LOW);
  digitalWrite(M1B, HIGH);
  digitalWrite(M2A, LOW);
  digitalWrite(M2B, LOW);
}
```

## CodigoArduinoMovimiento\_V2

```

void retroceder_izquierda() { // dato 5
  digitalWrite(M1A, LOW);
  digitalWrite(M1B, HIGH);
  digitalWrite(M2A, HIGH);
  digitalWrite(M2B, LOW);
}

void retroceder_derecha() { // dato 6
  digitalWrite(M1A, LOW);
  digitalWrite(M1B, HIGH);
  digitalWrite(M2A, LOW);
  digitalWrite(M2B, HIGH);
}

void parar() { // dato 7
  digitalWrite(M1A, LOW);
  digitalWrite(M1B, LOW);
  digitalWrite(M2A, LOW);
  digitalWrite(M2B, LOW);
}

void izquierda() { // dato 8
  digitalWrite(M1A, LOW);
  digitalWrite(M1B, LOW);
  digitalWrite(M2A, HIGH);
  digitalWrite(M2B, LOW);
}

```

## CodigoArduinoMovimiento\_V2

```

void derecha() { // dato 9
  digitalWrite(M1A, LOW);
  digitalWrite(M1B, LOW);
  digitalWrite(M2A, LOW);
  digitalWrite(M2B, HIGH);
}

void verificar() {
  if (BT.available()) {
    count = BT.read();
  }
}

void loop() {

  if (BT.available()) {
    dato = BT.read();
  }

  switch( dato )
  {
    case '1':
      // count=dato;
      // while (count != 0)
      //{
        avanzar_recto();
      // verificar();
      // }
      break;

```

## CodigoArduinoMovimiento\_V2

```
case '2':
  avanzar_izquierda();
  delay(t);
  avanzar_recto();
  break;

case '3':
  avanzar_derecha();
  delay(t);
  avanzar_recto();
  break;

case '4':
  retroceder_recto();
  break;

case '5':
  retroceder_izquierda();
  delay(t);
  retroceder_recto();
  break;

case '6':
  retroceder_derecha();
  delay(t);
  retroceder_recto();
  break;
```

```
case '7':
  parar();
  break;

case '8':
  izquierda();
  delay(2);
  parar();
  break;

case '9':
  derecha();
  delay(2);
  parar();
  break;
}

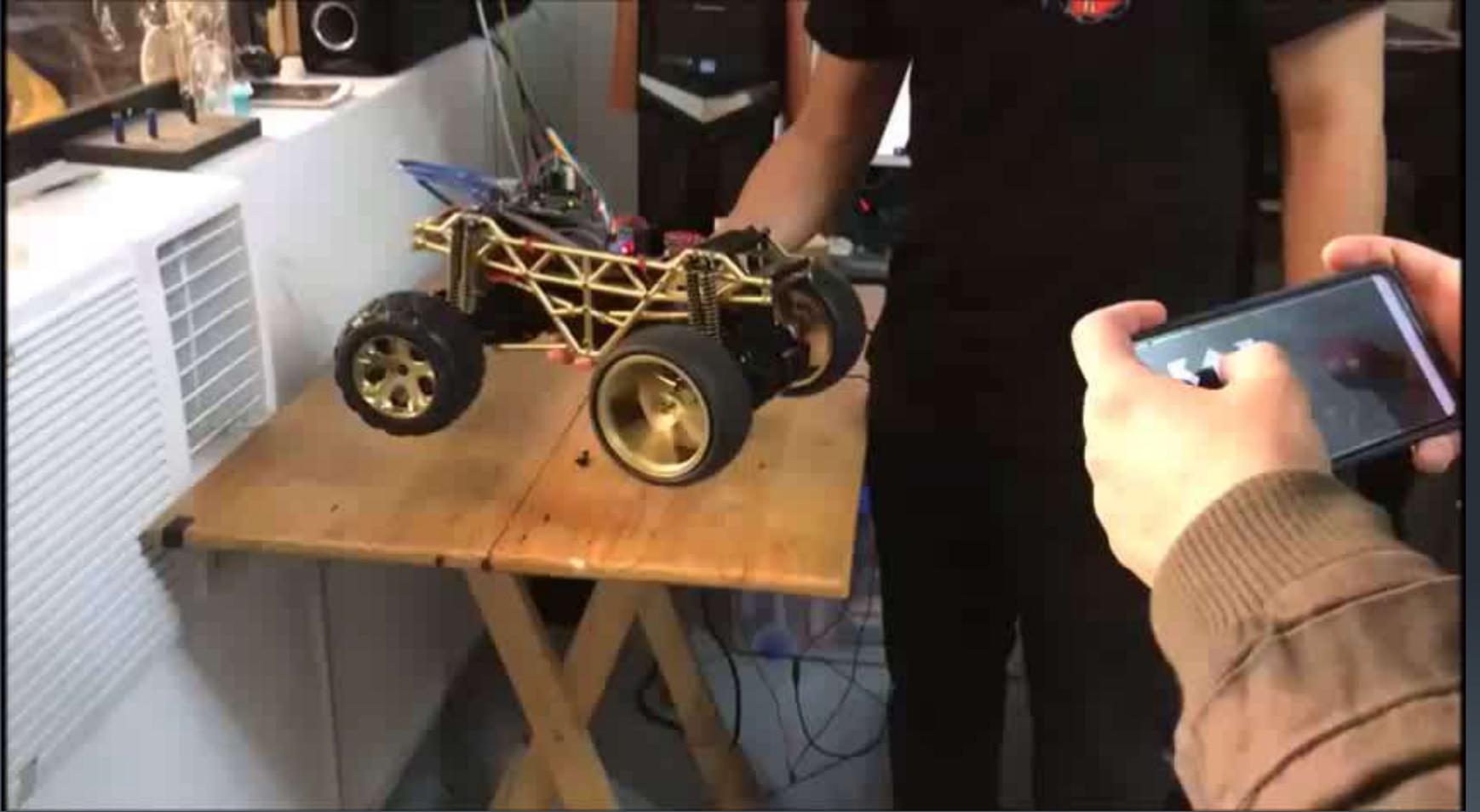
delay(1); //pasusa de lms por ciclo
}
```

# APP INVENTOR

The screenshot displays the MIT App Inventor web interface. At the top left is the MIT App Inventor logo. The navigation bar includes 'Projects', 'Connect', 'Build', 'Settings', and 'Help'. On the right side of the navigation bar are links for 'My Projects', 'Gallery', 'Guide', 'Report an Issue', and 'English'.

The main workspace is titled 'ControlRemotoCarro' and contains three buttons: 'Screen1', 'Add Screen...', and 'Remove Screen...'. The interface is divided into three main sections:

- Palette:** A sidebar on the left containing a search bar and a list of 'User Interface' components such as Button, CheckBox, DatePicker, Image, Label, ListPicker, ListView, Notifier, PasswordTextBox, Slider, Spinner, Switch, and TextBox.
- Viewer:** The central area showing a mobile device mockup. The screen displays a control interface with eight directional arrows (up, down, left, right, and diagonals) and a central 'SCAN' button. A checkbox above the mockup is labeled 'Display hidden components in Viewer'. Below the mockup, a section titled 'Non-visible components' shows 'BluetoothClient1' and 'Clock1'.
- Components:** A sidebar on the right showing a hierarchical tree of components. It includes 'Screen1', two 'HorizontalArrangement1' components, one 'TableArrangement1' component with sub-items 'UP\_LEFT', 'LEFT', 'DOWN\_LEFT', 'UP', 'CENTER', 'DOWN', 'UP\_RIGHT', and 'RIGHT', and another 'DOWN\_RIGHT' item. At the bottom, it lists 'BluetoothClient1' and 'Clock1'.



GRACIAS!

