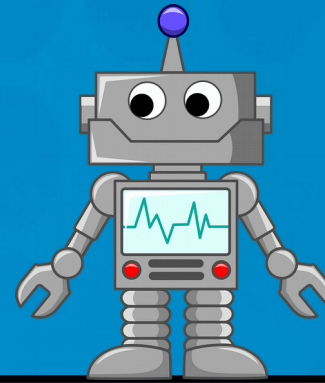


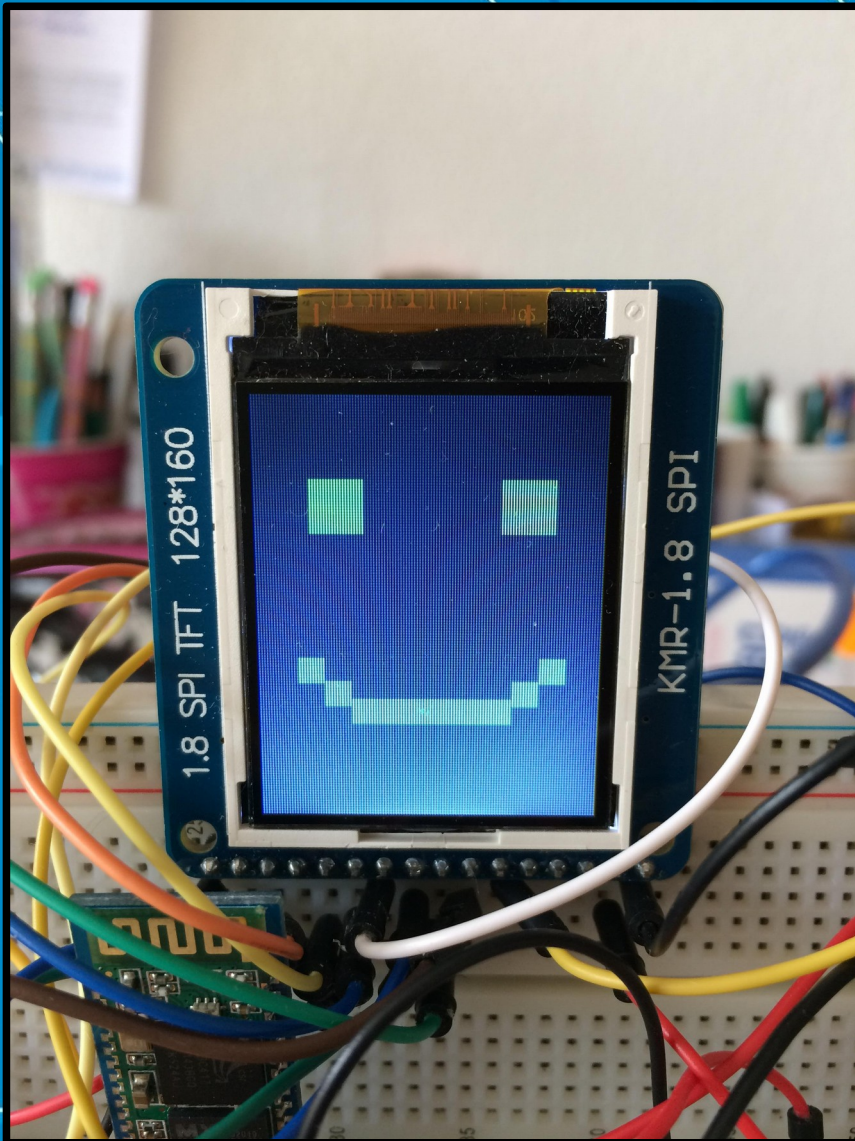
Projet Arduino Musical-e Robot



Sommaire

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2. Répartition du travail
3. Matériel
4. Description des options
5. Conclusion

PRÉSENTATION DU PROJET



Musical-e Robot est un robot ayant différentes options :

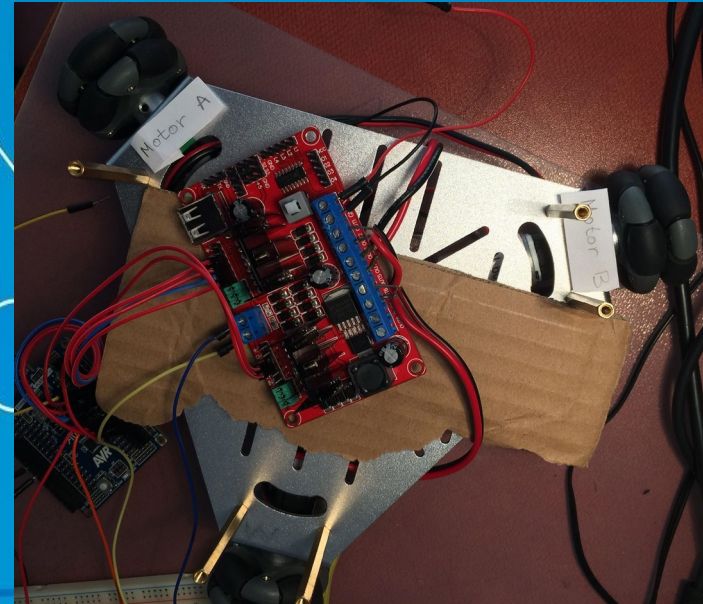
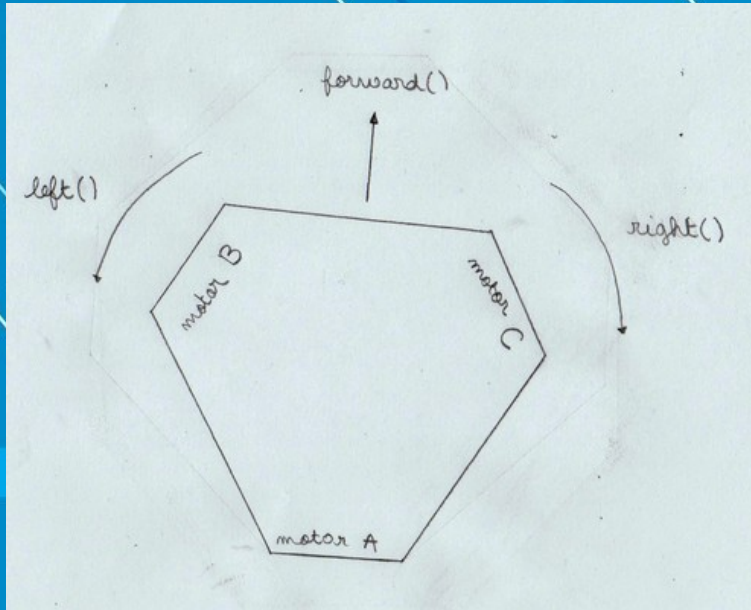
- il est télécommandé
- il danse
- il change de tête
- il émet de la musique

MATÉRIEL

- ✓ Carte Arduino Mega
- ✓ Roues omnidirectionnelles
- ✓ Carte L298N (H-Bridge)
- ✓ Module Bluetooth HC-06
- ✓ 2 servomoteurs
- ✓ Capteur ultra-sons HC-SR4
- ✓ Écran LCD
- ✓ Carte micro-SD
- ✓ Module SD Adapter Arduino
- ✓ Enceinte
- ✓ Batterie rechargeable



Contrôle des moteurs

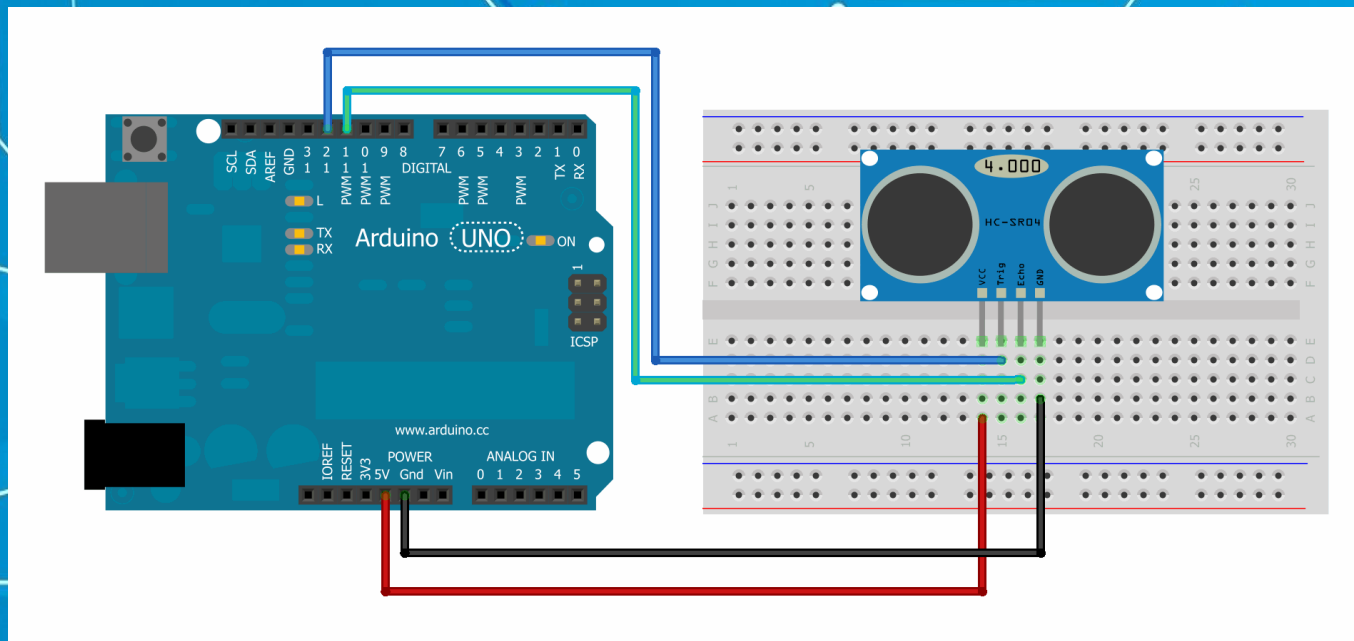


```
void forward() {  
  
    //The robot moves forward.  
    analogWrite(motorPin1, 180);  
    analogWrite(motorPin2, 0);  
    analogWrite(motorPin3, 180);  
    analogWrite(motorPin4, 0);  
    analogWrite(motorPin5, 0);  
    analogWrite(motorPin6, 0);  
  
}
```

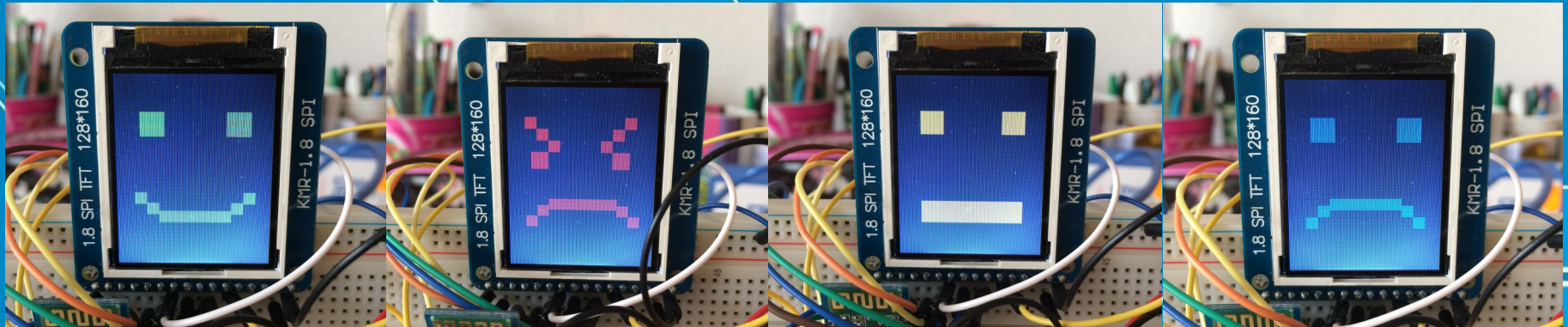
```
//Motor A  
const int motorPin1 = 9; //sens antihoraire  
const int motorPin2 = 10; //sens horaire  
//Motor B  
const int motorPin3 = 6; //sens horaire  
const int motorPin4 = 5; //sens antihoraire  
//Motor C  
const int motorPin5 = 3; //sens antihoraire  
const int motorPin6 = 11; //sens horaire
```

Gestion de la distance

```
void distance() {  
  // put your main code here, to run repeatedly:  
  NewPing sonar(trig,echo);  
  cm=sonar.ping_cm();  
  if(cm<15){  
    Serial.println(cm);  
  }  
}
```



Visage du robot

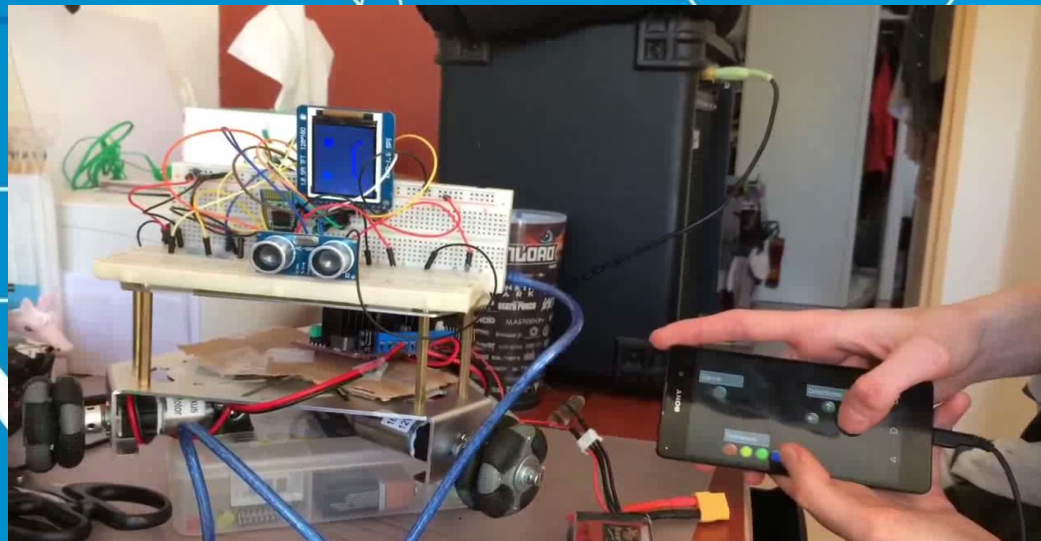


joie()

colere()

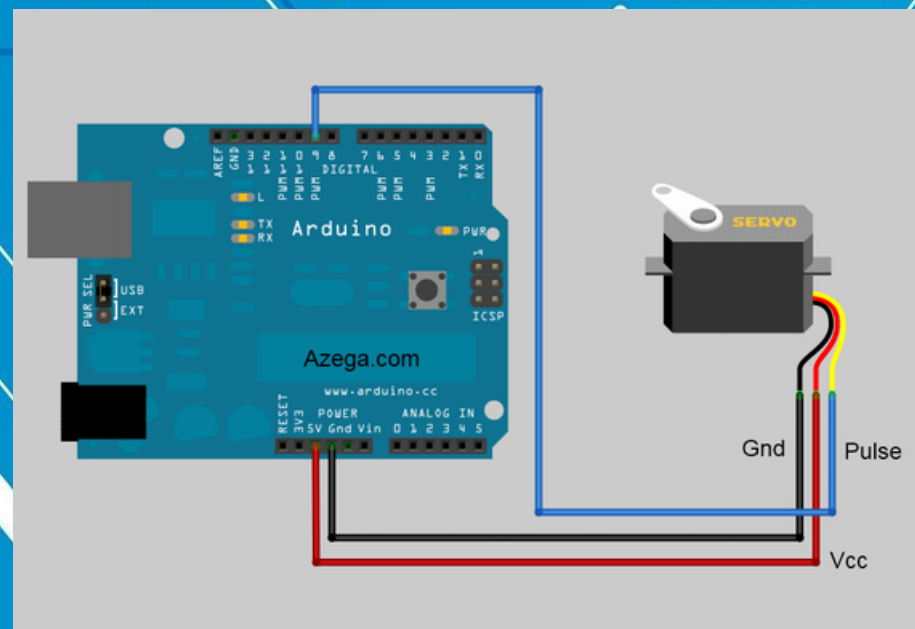
neutre()

triste()

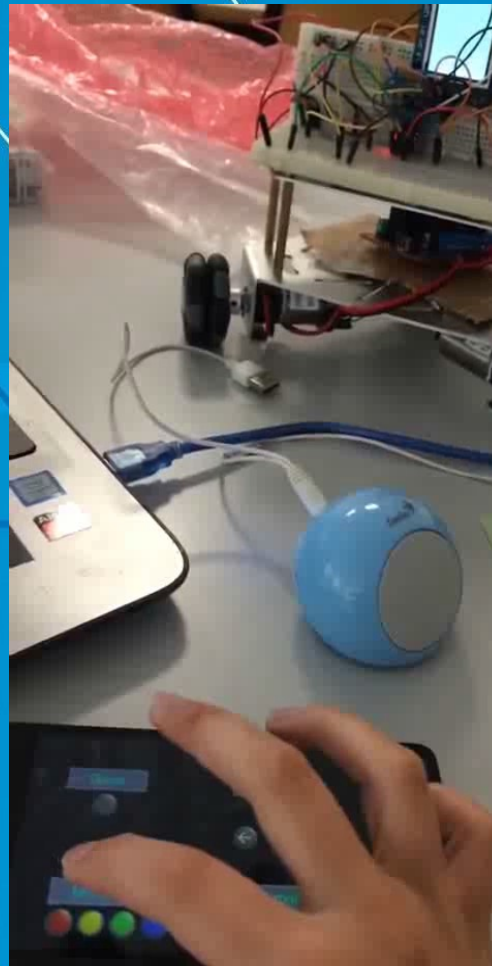


Bras motorisés

```
void servo() {  
  int pos;  
  for(pos = 42; pos!=158; pos+=1){      // goes from 42 degrees to 158 degrees  
    myservo.write(pos);                // tell servo to go to position in variable 'pos'  
    delay(15);                          // waits 15ms for the servo to reach the position  
  }  
  for(pos = 158; pos!=42; pos-=1){      // goes from 158 degrees to 42 degrees  
    myservo.write(pos);                // tell servo to go to position in variable 'pos'  
    delay(15);                          // waits 15ms for the servo to reach the position  
  }  
}
```



Diffusion de la musique



CONCLUSION

