JOY-PI
Schematic diagram

JOY-it

The data lines from the modules supplied with 5 V are converted to 3 V or 5 V using a logic level converter.

5V →	**LCD** **MCP23008**	→ GND
SDA →		
SCL →		

3v3 →	**Light Sensor** **BH1750FVI**	→ GND
SDA →		
SCL →		

5V →	**7-Segment** **HT16K33**	→ GND
SDA →		
SCL →		

3v3 →	**RFID** **MFRC522**	→ GND
MOSI →		→ MISO
SCLK →		
CS GPIO8 →		

5V →	**LED Matrix** **MAX7219CWG**	→ GND
MOSI →		
SCLK →		
CS GPIO7 →		

5V →	**Ultrasonic** **HCSR04**	→ GND
Trig. GPIO 16 →		→ Echo GPIO 12

COL 1 ↓ COL 2 ↓ COL 3 ↓ COL 4 ↓

ROW 1 →	**Button Matrix**	→ GND
ROW 2 →		
ROW 3 →		
ROW 4 →		

5V →	**IR-Receiver**	→ GND
		→ GPIO 20

5V →	**Motion** **LHI778**	→ GND
		→ GPIO 23

GPIO 37 →	up	→ GND
GPIO 33 →	down **Buttons**	
GPIO 22 →	left	
GPIO 35 →	right	

5V →	**Buzzer**	→ GND
GPIO 18 →		

5V →	**DHT 11**	→ GND
		→ GPIO 4

5V →	**Step Motor** **ULN2003D**	→ GND
STEP 1 →		
STEP 2 →		
STEP 3 →		
STEP 4 →		

5V →	**Touch**	→ GND
		→ GPIO 17

Tilt →	**Tilt**	→ GND

5V →	**Relay**	→ GND
GPIO 21 →		

5V →	**Sound** **LM393A**	→ GND
		→ GPIO 24

5V →	**SERVO 1**	→ GND
SERVO 1 →		

5V →	**SERVO 2**	→ GND
SERVO 2 →		

GPIO 27 →	**Switch 1**	→ ROW 1
GPIO 22 →		→ ROW 2
GPIO 5 →		→ ROW 3
GPIO 6 →		→ ROW 4
GPIO 13 →		→ COL 1
GPIO 19 →		→ COL 2
GPIO 26 →		→ COL 3
GPIO 25 →		→ COL 4

GPIO 27 →	**Switch 2**	→ Vibration
GPIO 22 →		→ Tilt
GPIO 5 →		→ STEP 1
GPIO 6 →		→ STEP 2
GPIO 13 →		→ STEP 3
GPIO 19 →		→ STEP 4
GPIO 26 →		→ SERVO 1
GPIO 25 →		→ SERVO 2

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www.joy-it.net
Pascalstr. 8 47506 Neukirchen-Vluyn