

Materials List for:

Robotic Sensing and Stimuli Provision for Guided Plant Growth

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Materials

Name	Company	Catalog Number	Comments
3D printed case	Shapeways, Inc	n/a	Customized product, https://www.shapeways.com/
3D printed joints	n/a	n/a	Produced by authors
Adafruit BME280 I2C or SPI Temperature Humidity Pressure Sensor	Adafruit	2652	
Arduino Uno Rev 3	Arduino	A000066	
CdS photoconductive cells	Lida Optical & Electronic Co., Ltd	GL5528	
Cybertronica PCB	Cybertronica Research	n/a	Customized product, http://www.cybertronica.de.com/download/D2_node_module_v01_appNote16.pdf
DC Brushless Blower Fan	Sunonwealth Electric Machine Industry Co., Ltd.	UB5U3-700	
Digital temperature sensor	Maxim Integrated	DS18B20	
High Power (800 mA) EPILED - Far Red / Infra Red (740-745 nm)	Future Eden Ltd.	n/a	
I2C Soil Moisture Sensor	Catnip Electronics	v2.7.5	
IR-proximity sensors (4-30 cm)	Sharp Electronics	GP2Y0A41SK0	
LED flashlight (50 W)	Inter-Union Technohandel GmbH	103J50	
LED Red Blue Hanging Light for Indoor Plant (45 W)	Erligpowht	B00S2DPYQM	
Low-voltage submersible pump 600 l/h (6 m rise)	Peter Barwig Wasserversorgung	444	
Medium density fibreboard	n/a	n/a	For stand
Micro-Spectrometer (Hamamatsu) on an Arduino-compatible breakout board	Pure Engineering LLC	C12666MA	
Pixie - 3W Chainable Smart LED Pixel	Adafruit	2741	
Pots (3.5 l holding capacity, 15.5 cm in height)	n/a	n/a	
Power supplies (5 V, 10 A)	Adafruit	658	
Raspberry Pi 3 Model B	Raspberry Pi Foundation	3B	
Raspberry Pi Camera Module V2	Raspberry Pi Foundation	V2	
Raspberry Pi Zero	Raspberry Pi Foundation	Zero	

RGB Color Sensor with IR filter and White LED - TCS34725	Adafruit	1334	
Sowing and herb soil	Gardol	n/a	
String bean	SPERLI GmbH	402308	
Transparent acrylic 5 mm sheet	n/a	n/a	For supplemental structural support
Wooden rods (birch wood), painted black, 5 mm diameter	n/a	n/a	For plants to climb