

HANG ON



A clever coat rack: acquiring the weather forecast via internet and displaying it in your home, allowing you to choose the optimum clothing and accessories for the conditions.

JOANNA MONTGOMERY

TECHNICAL IMPLEMENTATION



The correct symbol on the coat rack is illuminated.



```
coat_rack_attempt_2 | Processing 1.2.1
//Weather from the Yahoo Weather website
import processing.xml.*;
import processing.serial.*;
import cc.arduino.*;

Arduino arduino;

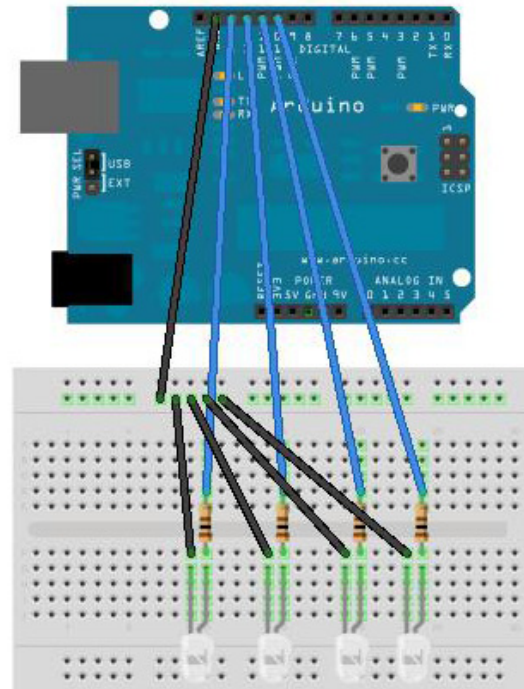
//input pins
int sunnyPin = 13; //pin for sunny light
int cloudyPin = 12; //pin for cloudy light
int rainyPin = 11; //pin for rainy light
int snowyPin = 10; //pin for snow light
String condition; //weather condition from xml feed
XMLReader xml;

void setup() {
  println(arduino.list());
  arduino = new Arduino(this, Arduino.list()[0], 115200); //arduino set up
  arduino.pinMode(sunnyPin, Arduino.OUTPUT); //set pin as output
  arduino.pinMode(cloudyPin, Arduino.OUTPUT); //set pin as output
  arduino.pinMode(rainyPin, Arduino.OUTPUT); //set pin as output
  arduino.pinMode(snowyPin, Arduino.OUTPUT); //set pin as output
}

[0] /dev/tty.usbmodem111*
[1] /dev/cu.usbmodem111*
[2] /dev/tty.Bluetooth-PDA-Sync*
[3] /dev/tty.Bluetooth-Module*
[4] /dev/cu.Bluetooth-Module*
[5] /dev/cu.Bluetooth-Module*
[6] /dev/tty.Bluetooth-DataTransfer*
[7] /dev/cu.Bluetooth-DataTransfer*
[8]
[9] experimental: JNI_OnLoad called.
376
```

Processing imports the weather forecast in XML format via Google Weather.

The code looks for key weather terms.



Processing chooses one of the four weather conditions and passes a signal to Arduino. A signal is then sent to the corresponding light.



```
StandardFirmata | Arduino 0021
StandardFirmata
/*
 * Copyright (C) 2006-2008 Hans-Christoph Steiner. All rights reserved.
 *
 * This library is free software; you can redistribute it and/or
 * modify it under the terms of the GNU Lesser General Public
 * License as published by the Free Software Foundation; either
 * version 2.1 of the License, or (at your option) any later version.
 *
 * See file LICENSE.txt for further informations on licensing terms.
 *
 * formatted using the GNU C formatting and indenting
 */
/*
 * T000: use Program Control to load stored profiles from EEPROM
 */
#include <servo.h>
#include <Iraota.h>

//-----
// GLOBAL VARIABLES
//-----
/*
 * analog inputs */
int analogInputsToReport = 0; // bitwise array to store pin reporting
```

Firmata is running on the Arduino board, controlling the physical output

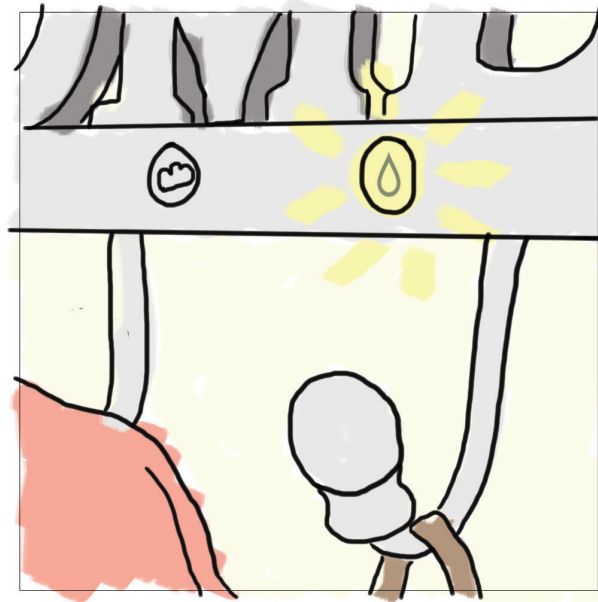
Code and more available at: <http://dm.ncl.ac.uk/jo/blog>

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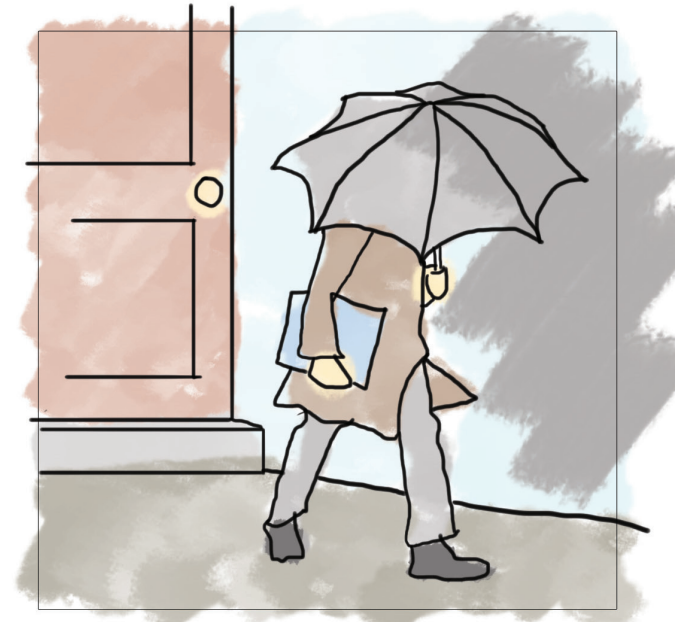
USER SCENARIO



Bill is leaving for work in a rush and goes to grab his coat from the hall without even looking outside.



Upon reaching the coat rack, he sees the “rain” symbol is illuminated so decides to pick up his umbrella as well.



He is suitably prepared when he leaves his house and has to walk through torrential rain.

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