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Group #11
CIT595 Arduino Project
User Documentation

THE WATCHDOG

Introduction

Welcome to your new WatchDog Home Monitoring System! This user-friendly connection between you and your home will allow you to stay informed on the status of your house's climate and security even while you're on the go, via our easily downloadable Pebble App.
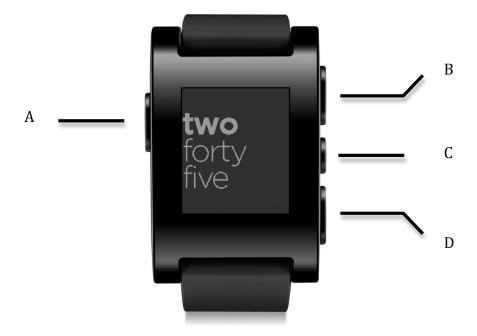
Features

The WatchDog Arduino sensor monitors the air temperature of your home, providing instant readings that can be requested directly from your Pebble Watch, and will be updated in real time to ensure you have the most up-to-date information, including the High, Low, and Average temperatures recorded during the past hour. The display on both your Pebble Watchface and the Arduino at your home can be set to either Celsius or Fahrenheit values with a single button click on your Pebble Watch.

The Arduino also includes a top-quality motion sensor that will let you know when someone enters your house. As soon as the sensor is triggered, an alarm message will appear on your Pebble Watch, vibrating to get your attention within 5 seconds of detecting a possible intruder in your home. No matter where you are, you will then have the option of resetting the WatchDog alarm via your Pebble Watch, when you are certain that there is no cause for concern, or immediately calling the local police station, which will trigger a warning message on the Arduino display back at your house.

You also have the option to set your WatchDog into standby mode, which will deactivate the temperature readings and the motion detector until you take your system off standby, with just another click of the Pebble Watch on your wrist.

You need never worry about your house again once you have your WatchDog keeping track of your home's status! Read on for step-by-step instructions.

Instructions for Use

You have four buttons on your Pebble Watch. Button A, on the left side, can be used to go back as usual in your Pebble Watch, and has no added functionality with the WatchDog App. Buttons B, C, and D can each be used as explained below. In some cases, a single click of a button will result in one display, while a double click of the same button yields a different result.

Reading Current Temperature

Click Button C once to get the most recent temperature reading from the Arduino sensor in your home. Once clicked, the display will be automatically updated with the newest temperature reading until a different button is clicked. If your WatchDog is in standby mode, the message "No data available" will be displayed.

Change Between Fahrenheit and Celsius

Click Button B once to switch your display from temperatures in Celsius to Fahrenheit, and vice versa. The temperature will now be displayed on both your Pebble Watch and the display on the Arduino using the new units. The Pebble Watch will continue to automatically update with the newest temperature reading until a different button is clicked. If your WatchDog is in standby mode, the message "No data available" will be displayed.

See Temperature Statistics from Last Hour

Click Button D once to get the past hour's High, Low, and Average temperatures in whichever unit of measurement is currently selected. The past hour may include time during which your WatchDog was put into standby mode, in which case no data from that time period will be included in the calculations. If the WatchDog is current in standby mode, the message "No data available" will be displayed.

Enter or Exit from Standby Mode

Click Button C twice to enter or exit from Standby Mode. When in Standby Mode, you will not be able to get the current temperature or stats, nor will the Arduino sensor detect any motion in your house.

Reset the Alarm

When the motion sensor at your home as been set off, your Pebble Watch will display the message "INTRUDER ALERT!" To reset the WatchDog alarm without taking any further action, click Button B twice.

Respond to the Alarm

When the motion sensor at your home has been set off, your Pebble Watch will display the message "INTRUDER ALERT!" To respond to the alarm, click Button C once. This will cause the Arduino in your home to flash a warning light and display the message "POLICE CALLED" on its display screen. When you've decided the danger has passed, you can reset the alarm again from your Pebble Watch by clicking Button B twice.

Notes:
The "respond to the alarm" functionality does not actually call the police but just displays the message on the Arduino.
The logo has been borrowed from http://www.watchhunter.org/2015/04/the-watch-dog-series-zack-boston-terrier-swiss-army-yellow-crystal-watch.html.