AdafruitFocalTouch Library Documentation

Release 1.0

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Dec 21, 2018

Contents

CircuitPython driver for common low-cost FocalTech capacitive touch chips. Currently supports FT6206 & FT6236

CHAPTER 1

Dependencies

This driver depends on:

- Adafruit CircuitPython
- Bus Device

Please ensure all dependencies are available on the CircuitPython filesystem. This is easily achieved by downloading the Adafruit library and driver bundle.

CHAPTER 2

Usage Example

```
import time
import busio
import board
import adafruit_focaltouch

# Create library object using our Bus I2C port
i2c = busio.I2C(board.SCL, board.SDA)

ft = adafruit_focaltouch.Adafruit_FT6XXX(i2c, debug=True)

while True:
    n = ft.touched
    if n:
        print(ft.touches)
```

CHAPTER 3

Contributing

Contributions are welcome! Please read our Code of Conduct before contributing to help this project stay welcoming.

CHAPTER 4

Building locally

To build this library locally you'll need to install the circuitpython-build-tools package.

```
python3 -m venv .env
source .env/bin/activate
pip install circuitpython-build-tools
```

Once installed, make sure you are in the virtual environment:

```
source .env/bin/activate
```

Then run the build:

```
circuitpython-build-bundles --filename_prefix adafruit-circuitpython-focaltouch --
↪library_location .
```

4.1 Sphinx documentation

Sphinx is used to build the documentation based on rST files and comments in the code. First, install dependencies (feel free to reuse the virtual environment from above):

```
python3 -m venv .env
source .env/bin/activate
pip install Sphinx sphinx-rtd-theme
```

Now, once you have the virtual environment activated:

```
cd docs
sphinx-build -E -W -b html . _build/html
```

This will output the documentation to `docs/_build/html`. Open the index.html in your browser to view them. It will also (due to -W) error out on any warning like Travis will. This is a good way to locally verify it will pass.

CHAPTER 5

Table of Contents

5.1 Simple tests

Ensure your device works with these simple tests.

Listing 1: examples/print_touches.py

```
"""
Example for getting touch data from an FT6206 or FT6236 capacitive
touch driver, over I2C
"""

import busio
import board
import adafruit_focaltouch

# Create library object using our Bus I2C port
i2c = busio.I2C(board.SCL, board.SDA)

ft = adafruit_focaltouch.Adafruit_FocalTouch(i2c, debug=True)

while True:
    n = ft.touched
    if n:
        print(ft.touches)
```

Listing 2: examples/simple_paint.py

```
"""
Simple painting demo that draws on an Adafruit capacitive touch shield with
ILI9341 display and FT6206 captouch driver
"""

import busio
```

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```
import board
import digitalio
import adafruit_focaltouch
from adafruit_rgb_display import ili9341, color565

# Create library object using our Bus I2C & SPI port
i2c = busio.I2C(board.SCL, board.SDA)
spi = busio.SPI(clock=board.SCK, MOSI=board.MOSI, MISO=board.MISO)

# Adafruit Metro M0 + 2.8" Capacitive touch shield
cs_pin = digitalio.DigitalInOut(board.D10)
dc_pin = digitalio.DigitalInOut(board.D9)

# Initialize display
display = ili9341.ILI9341(spi, cs=cs_pin, dc=dc_pin)
# Fill with black!
display.fill(color565(0, 0, 0))

ft = adafruit_focaltouch.Adafruit_FocalTouch(i2c)

while True:
    if ft.touched:
        ts = ft.touches
        point = ts[0]   # the shield only supports one point!
        # perform transformation to get into display coordinate system!
        y = 320 - point['y']
        x = 240 - point['x']
        display.fill_rectangle(x-2, y-2, 4, 4, color565(255, 255, 255))
```

5.2 adafruit_focaltouch

CircuitPython driver for common low-cost FocalTech capacitive touch chips. Currently supports FT6206 & FT6236.

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5.2.1 Implementation Notes

Hardware:

- Adafruit 2.8" TFT LCD with Cap Touch Breakout Board w/MicroSD Socket (Product ID: 2090)
- Adafruit 2.8" TFT Touch Shield for Arduino w/Capacitive Touch (Product ID: 1947)

Software and Dependencies:

- Adafruit CircuitPython firmware for the ESP8622 and M0-based boards: https://github.com/adafruit/circuitpython/releases
- Adafruit's Bus Device library (when using I2C/SPI): https://github.com/adafruit/Adafruit_CircuitPython_BusDevice

class adafruit_focaltouch.**Adafruit_FocalTouch**(*i2c*, *address=56*, *debug=False*)

A driver for the FocalTech capacitive touch sensor.

touched

Returns the number of touches currently detected

touches

Returns a list of touchpoint dicts, with 'x' and 'y' containing the touch coordinates, and 'id' as the touch # for multitouch tracking

CHAPTER 6

Indices and tables

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- modindex
- search

Python Module Index

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