



# PyBadger Event Badge

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<https://learn.adafruit.com/pybadger-event-badge>

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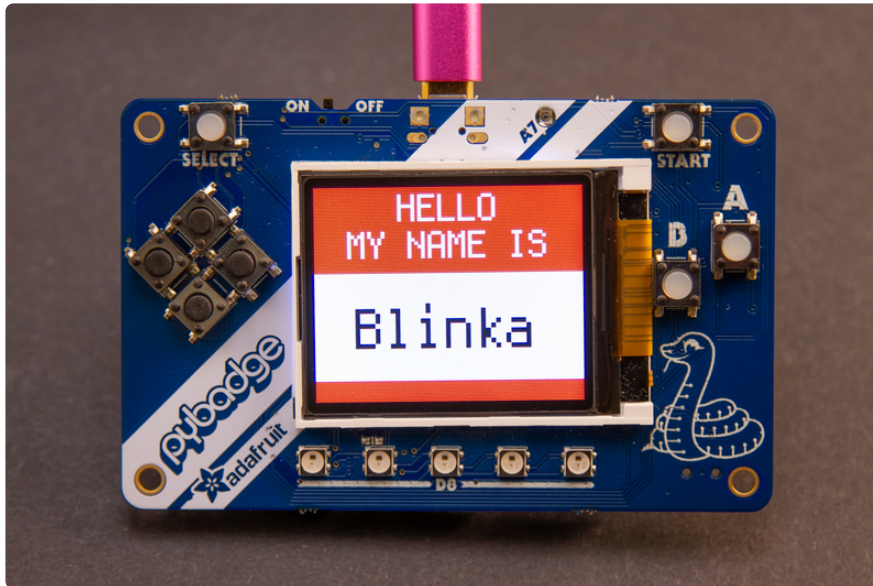
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# Overview

Download PyBadge FeatherWing  
Snapfit Case

<https://adafru.it/Sva>

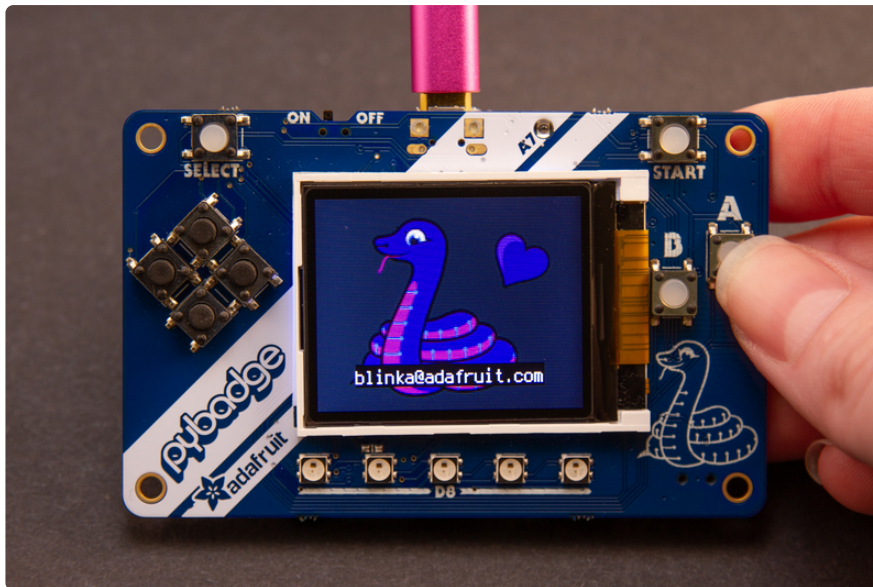


You're headed to the next big conference or event. They'll likely provide a badge with your name on it, but what if you could have something better?

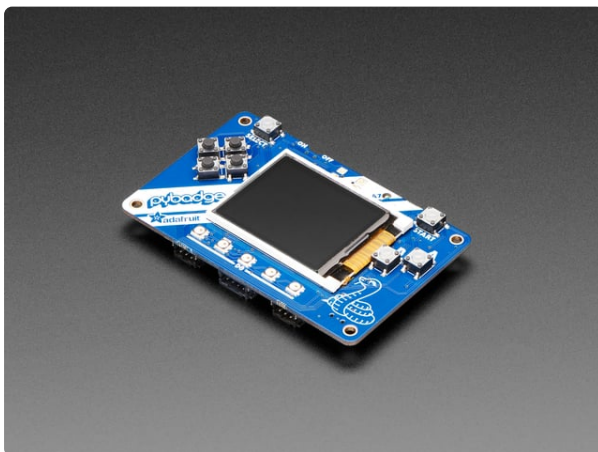
That's where PyBadger and PyBadge (or PyGamer or CLUE) come in! Use CircuitPython to easily create an interactive conference or event badge. You can display a "Hello My Name Is"-style badge that you can quickly add your name to, or customise it entirely. You can generate and display a custom QR code to direct people to your website. You can also display a "business card" with an image, such as your face or company logo, and a string of text, such as your email address.

PyBadger also gives you access to the other features on the board, such as the buttons, NeoPixels, light sensor, and accelerometer. You can easily add all kinds of features to your badge if you choose to.

CircuitPython's own Blinka is headed to the next Circuit Playground conference and wants to have the coolest badge there. This guide will walk you through Blinka creating an interactive conference badge. Follow along and customise it to fit your needs!



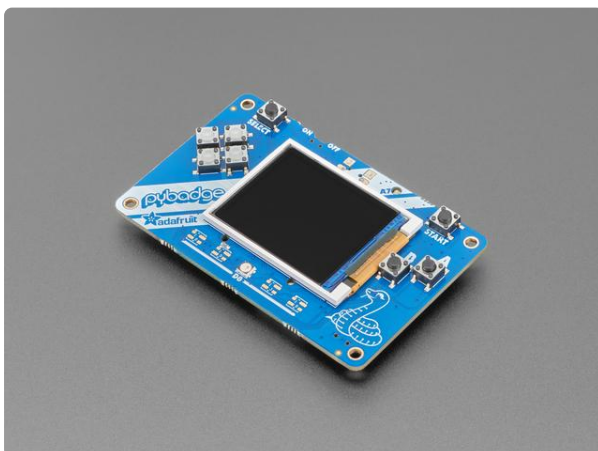
All you need to follow along is a PyBadge, battery and lanyard, we have a few options for each, so you can deck out in the fanciest style, or go for an affordable-yet-stylish look



#### [Adafruit PyBadge for MakeCode Arcade, CircuitPython, or Arduino](https://www.adafruit.com/product/4200)

What's the size of a credit card and can run CircuitPython, MakeCode Arcade or Arduino? That's right, its the Adafruit PyBadge! We wanted to see how much we...

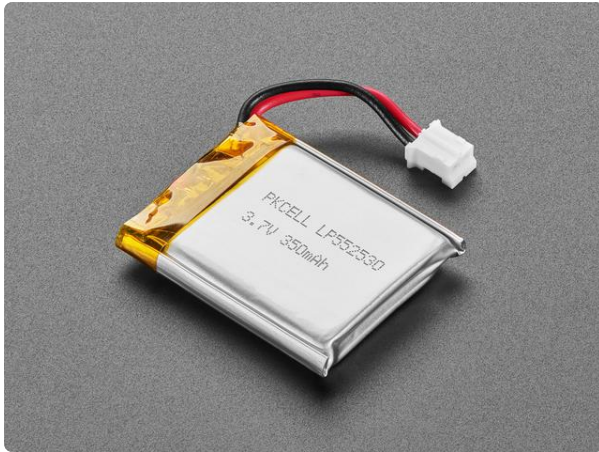
<https://www.adafruit.com/product/4200>



#### [Adafruit PyBadge LC - MakeCode Arcade, CircuitPython, or Arduino](https://www.adafruit.com/product/3939)

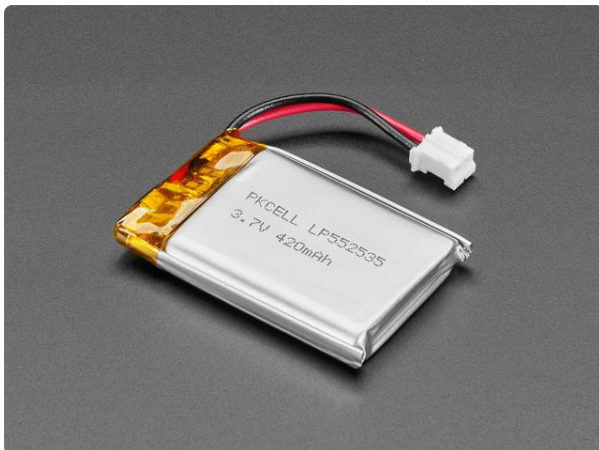
What's the size of a credit card and can run CircuitPython, MakeCode Arcade or Arduino even when you're on a budget? That's right, it's the Adafruit...

<https://www.adafruit.com/product/3939>



#### Lithium Ion Polymer Battery with Short Cable - 3.7V 350mAh

Lithium-ion polymer (also known as 'lipo' or 'lipoly') batteries are thin, light, and powerful. The output ranges from 4.2V when completely charged to 3.7V. This...  
<https://www.adafruit.com/product/4237>



#### Lithium Ion Polymer Battery with Short Cable - 3.7V 420mAh

Lithium-ion polymer (also known as 'lipo' or 'lipoly') batteries are thin, light, and powerful. The output ranges from 4.2V when completely charged to 3.7V. This...  
<https://www.adafruit.com/product/4236>



#### Adafruit Circuit Playground Lanyard

We've got our Circuit Playground friends on lunchboxes,  
<https://www.adafruit.com/product/3987>



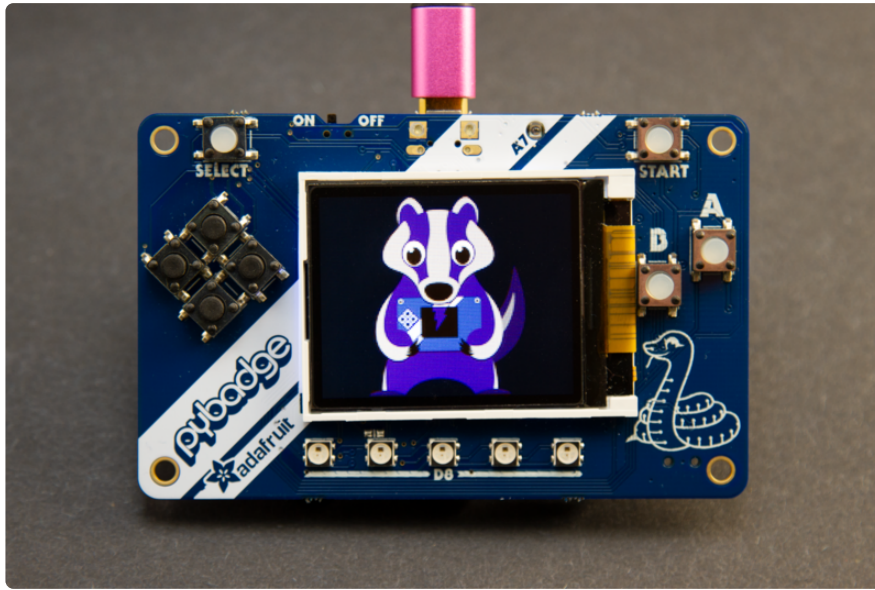
#### Double-Hook Lanyard in Adafruit Black

What did the lanyard say to the hat? "You go on ahead, I'll hang around."Terribly good puns aside, we've got a Double-Hook Lanyard in...  
<https://www.adafruit.com/product/3982>



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# Prepare Your Badge



Adafruit CircuitPython PyBadger makes it easy to create an interactive conference or event badge with PyBadge or PyGamer. Blinka is headed to a fun conference, and is excited to create a badge. Let's take a look!

## Download PyBadger

Adafruit CircuitPython PyBadger requires the latest CircuitPython and a number of libraries to work.

To download CircuitPython, visit the following link for CLUE, PyBadge or PyGamer, depending on what you're using, and download the latest CircuitPython version for your board.

**Download CircuitPython for CLUE  
from [circuitpython.org](https://circuitpython.org)**

<https://adafru.it/IHF>

**Download CircuitPython for  
PyBadge from [circuitpython.org](https://circuitpython.org)**

<https://adafru.it/EF4>

**Download CircuitPython for  
PyGamer from [circuitpython.org](https://circuitpython.org)**

<https://adafru.it/FxM>

Next visit the following link and download the library bundle that matches your CircuitPython version.

**Download the CircuitPython Library Bundle from [circuitpython.org](https://adafru.it/ENC)**

<https://adafru.it/ENC>

PyBadger requires the following libraries to work. Download the library bundle and unzip the file. Open the folder, find the **lib** folder within, and open the **lib** folder. Copy the following folders and files to the **lib** folder on your **CIRCUITPY** drive:

- **adafruit\_bitmap\_font**
- **adafruit\_bus\_device**
- **adafruit\_display\_shapes**
- **adafruit\_display\_text**
- **adafruit\_minqr.mpy**
- **adafruit\_pybadger**
- **neopixel.mpy**

If you are using **PyBadge** or **PyGamer**, copy the following library:

- **adafruit\_lis3dh.mpy**

If you are using **CLUE**, copy the following library:

- **adafruit\_lsm6ds.mpy**
- **adafruit\_register**

Once you have the listed files and folders copied to the lib folder on your **CIRCUITPY** drive, you're ready to go!

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## Using PyBadger

## Using PyBadger

Using the PyBadger library is easy. Simply import the library.

```
from adafruit_pybadger import pybadger
```

Now you have access to all the features PyBadger has to offer, including badge, business card, and QR code creation.

## Hello My Name Is...

First we'll create a "Hello My Name Is" style badge to display initially.

```
pybadger.show_badge(name_string="Blinka", hello_scale=2, my_name_is_scale=2, name_scale=3)
```



To change the badge to display your name, set `name_string="Your Name"` when you create the badge object.

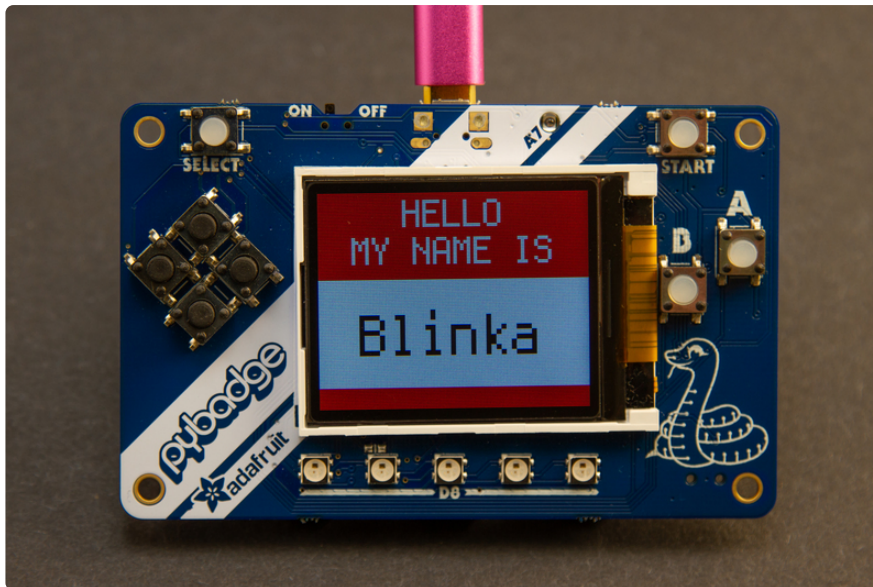
Each of the scales applies to a different line on the badge, e.g. `hello_scale` applies to the HELLO string on the badge. When using the default font, the above values for `hello_scale` and `my_name_is_scale` are ideal. Depending on the length of your name, you'll want to tweak `name_scale` to allow it to fit properly.

## Auto-Dim the Display

The display is the part of the badge that uses up the most battery. To help mitigate that, PyBadger includes the ability to auto-dim the display if the badge isn't moving. If you set it down somewhere, it'll use less battery.

```
while True:  
    pybadger.auto_dim_display()
```





It defaults to dimming after `5` seconds, and brightening up again on a fairly small movement threshold of `1.5`. If you would like to change either of those, you can do so when adding the `auto_dim_display()` function to your code. For example, to change it to wait 10 seconds before dimming, and require more movement to brighten up again, you would add the following:

```
pybadge.auto_dim_display(delay=10, movement_threshold=20)
```

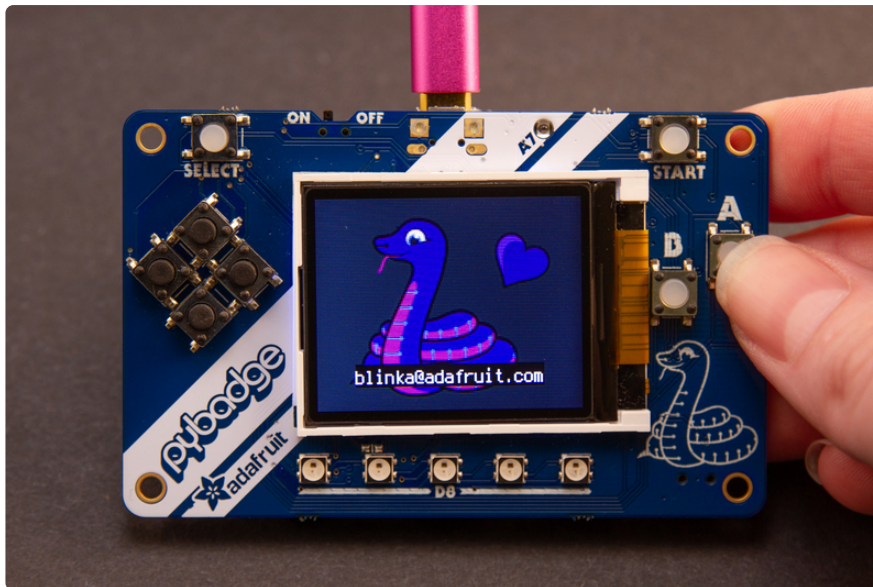
The higher the `movement_threshold`, the more movement it takes to cause the display to return to full brightness.

## Business Card

Everyone exchanges business cards at conferences. But it means carrying extra things around and trying to remember who gave you the card in the first place. Not any more! Now you can display a simple business card with your picture, name, and email address. Someone can snap a quick picture of it, and have your face and info available for later.

Blinka wants to display her name, email and image when pressing button A.

```
if pybadge.button.a:
    pybadge.show_business_card(image_name="Blinka.bmp", name_string="Blinka",
    name_scale=2,
                                email_string_one="blinka@",
    email_string_two="adafruit.com")
```



The `show_business_card` function requires you to provide a bitmap image name as a string. You can optionally add your name as a string, and up to two lines of an email address (or any other info you'd like to provide!).

The badge will continue to display the business card until you tell it to display something else by pressing another button.

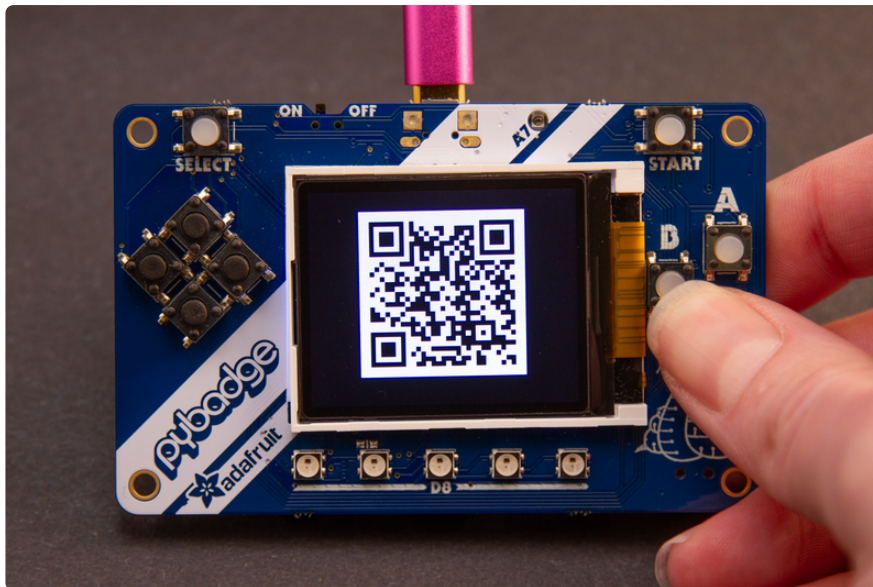
Images must be in 16-bit or 24-bit BMP format, and ideally 160x128 pixels. Here's the blinka.bmp file if you need to see what the format is:



## QR Code

Blinka wants to direct other conference attendees to her website. She can easily do that by generating a QR code and having it display when pressing button B.

```
elif pybadge.button.b:  
    pybadge.show_qr_code(data="https://circuitpython.org")
```



The `show_qr_code` function allows you to set its target by setting `data=` a string with the target info in it. For example, Blinka wants to point to `circuitpython.org` and so she sets `data="https://circuitpython.org"`.

The badge will continue to display the QR code until you tell it to display something else by pressing another button.

## Return to Hello My Name Is...

Blinka needs a way to display the Hello My Name Is part of the badge again after showing off her business card and QR code. So the last thing included is assigning the start button to display it.

```
elif pybadge.button.start:
    pybadge.show_badge(name_string="Blinka", hello_scale=2,
my_name_is_scale=2, name_scale=3)
```



That's all there is to creating a fun, interactive conference or event badge!

## Full Example Code

```
# SPDX-FileCopyrightText: 2021 ladyada for Adafruit Industries
# SPDX-License-Identifier: MIT

from adafruit_pybadger import pybadger

pybadger.show_badge(
    name_string="Blinky", hello_scale=2, my_name_is_scale=2, name_scale=3
)

while True:
    pybadger.auto_dim_display(
        delay=10
    ) # Remove or comment out this line if you have the PyBadge LC
    if pybadger.button.a:
        pybadger.show_business_card(
            image_name="Blinky.bmp",
            name_string="Blinky",
            name_scale=2,
            email_string_one="blinka@",
            email_string_two="adafruit.com",
        )
    elif pybadger.button.b:
        pybadger.show_qr_code(data="https://circuitpython.org")
    elif pybadger.button.start:
        pybadger.show_badge(
            name_string="Blinky", hello_scale=2, my_name_is_scale=2, name_scale=3
        )
```