You're absolutely on the right track, Richard—motion blur in your photobooth setup can often be tamed by tweaking the camera configuration, especially exposure settings. With the PiCamera2 library and the v2 Camera Module, here are a few adjustments you can make in your code to reduce blur:

1. **Shorten the Exposure Time**

Motion blur is typically caused by a long exposure. You can reduce it by setting a shorter shutter speed (exposure time). For example:

from picamera2 import Picamera2 from libcamera import controls picam2 = Picamera2() config = picam2.create\_still\_configuration() picam2.configure(config) picam2.start() # Let the camera warm up import time time.sleep(2) # Set a fast shutter speed (e.g., 1/500s = 2000 µs) picam2.set\_controls({"ExposureTime": 2000, "AnalogueGain": 4.0}) picam2.capture\_file("sharp\_photo.jpg")

|  |
| --- |
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You may need to increase the gain to compensate for the reduced light due to the faster shutter.

2. **Use a Bright Light Source**

Since faster shutter speeds reduce the amount of light hitting the sensor, good lighting is essential. Consider adding LED lighting to your photobooth to keep images bright and sharp.

3. **Lock Auto Exposure**

Auto exposure can introduce variability. Lock it down once you've found a good setting:

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| --- |
| picam2.set\_controls({"AeEnable": False}) |

4. **Increase Sharpness and Contrast (Optional)**

These won’t reduce blur directly but can enhance perceived clarity:

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| --- |
| picam2.set\_controls({ "Sharpness": 2.0, "Contrast": 1.5 }) |

5. **Manual Focus Tweak (Hardware)**

Some v2 modules ship with the lens focused at 1–2 meters. If your subjects are closer or farther, you might need to manually adjust the lens focus with tweezers or needle-nose pliers. It’s delicate work, but it can make a big difference.

Would you like help integrating these changes into your existing photobooth script? I can walk you through it step by step.

https://www.jeffgeerling.com/blog/2017/fixing-blurry-focus-on-some-raspberry-pi-camera-v2-models