



Carl Kho

- Tags2026
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- Quick DescriptionBiosensors → video games
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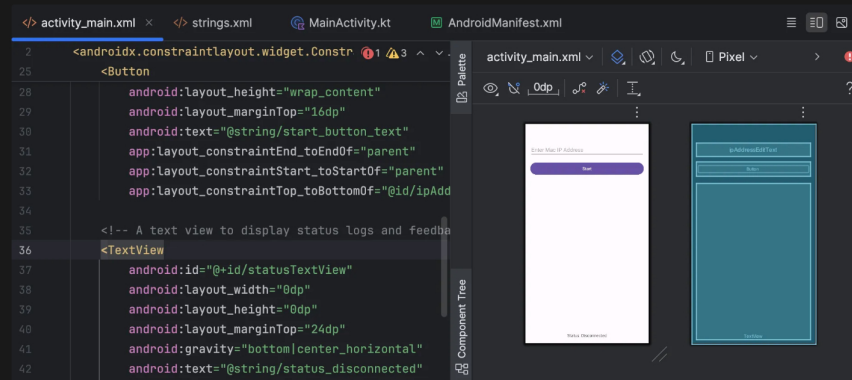
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@Last Thursday @ 10:38PM

 [GitHub](#) [GitHub - CarlKho-Minerva/SilksongController_25TPE: Physical...](#)

Working android app to gather sensor data

Transfer data over UDP (locally via ip add)



```
+ SilksongController_25TPE git:(main) /opt/homebrew/bin/python3 /Users/cvk/ner.py
✓ Python listener is running.
Listening for controller data on port 12345...
```

```
-----
Start the app on your phone to see data stream.
Received from ('10.99.109.125', 38208): SENSOR:-6.850,8.050,2.756
Received from ('10.99.109.125', 38208): SENSOR:-4.674,8.319,3.582
Received from ('10.99.109.125', 38208): SENSOR:-4.107,8.515,3.221
Received from ('10.99.109.125', 38208): SENSOR:-3.242,8.016,2.734
Received from ('10.99.109.125', 38208): SENSOR:-1.545,6.616,2.582
Received from ('10.99.109.125', 38208): SENSOR:0.214,6.194,5.075
Received from ('10.99.109.125', 38208): SENSOR:0.258,4.589,7.043
Received from ('10.99.109.125', 38208): SENSOR:-0.492,3.209,8.340
Received from ('10.99.109.125', 38208): SENSOR:-0.931,1.917,9.069
Received from ('10.99.109.125', 38208): SENSOR:-0.718,1.327,9.602
Received from ('10.99.109.125', 38208): SENSOR:-1.162,0.322,10.235
Received from ('10.99.109.125', 38208): SENSOR:-1.248,-0.744,10.593
Received from ('10.99.109.125', 38208): SENSOR:-1.016,-1.735,10.491
Received from ('10.99.109.125', 38208): SENSOR:-1.305,-1.994,9.952
Received from ('10.99.109.125', 38208): SENSOR:-1.835,-3.296,10.685
Received from ('10.99.109.125', 38208): SENSOR:-1.509,-3.450,11.721
Received from ('10.99.109.125', 38208): SENSOR:-1.415,-3.497,12.311
Received from ('10.99.109.125', 38208): SENSOR:-3.078,-4.449,11.746
Received from ('10.99.109.125', 38208): SENSOR:-2.813,-4.067,12.358
Received from ('10.99.109.125', 38208): SENSOR:-1.756,-2.780,12.342
Received from ('10.99.109.125', 38208): SENSOR:-2.270,-2.339,12.090
Received from ('10.99.109.125', 38208): SENSOR:-0.921,-0.859,10.644
Received from ('10.99.109.125', 38208): SENSOR:0.409,-0.098,9.028
Received from ('10.99.109.125', 38208): SENSOR:1.618,1.492,8.508
Received from ('10.99.109.125', 38208): SENSOR:2.289,2.965,5.940
Received from ('10.99.109.125', 38208): SENSOR:2.656,3.921,5.472
Received from ('10.99.109.125', 38208): SENSOR:3.416,4.383,6.283
```

@Last Friday 6:02 pm

@Last Friday 9:02 pm

Accelerometer → pynput works. Hornet punches!

but now I have to improve the ux because I have a certain way of holding my phone.

Instead of testing and trying to get the values of magnitude for the punch for example, I'm going to be recording my accelerometer data for the actions I execute so that I may average them.

I think machine learning is Overkill here, so that's why I'll just do my averages.

NTU orientation time!

@Last Sunday 1:15 AM

<https://recorder.google.com/81dbf02c-271c-46b4-a46a-70e384a5e7e8>

Silksong Controller Updates

- **New Architecture:** Now uses a state machine architecture.
- **Improved UX:** Utilizes gravity to confirm walking and combat states, reducing false positives.
- **Sensor Upgrade:** Switched from accelerometers to a gyroscope sensor for more accurate motion detection.
- **Data-Driven Calibration:** Implemented a calibration system that averages recorded forces for actions like punching and jumping to quantify motion.
- **Dynamic Orientation:** The "forward" direction is no longer a fixed 0-degree angle, making it more intuitive.
- **Better Jump Detection:** Jump detection now uses data from the X-axis (horizontal hand motion) instead of the Y-axis.
- **Expanded Calibration:** The process now calibrates for arm swing amplitude and gyroscope noise during walking, in addition to punches and jumps.
- **Connectivity Fix:** A single line of code was added to prevent the phone from sleeping, which previously disconnected the controller.

New Project: Brain-Controlled Web Navigation

- **The Idea:** A new project was inspired by the Playwright MCP server to control and navigate the web using brain signals.
- **Technology:** This will involve a mix of brain states (measured by EEG diodes), the Playwright automation framework, and natural language commands (speech-to-text).
- **User Flow:**
 - A specific brain state (e.g., thinking of the word "navigate") would trigger a `browser_navigate` action.
 - Speech-to-text would then be used to specify the destination URL (e.g., "portfolio website").
 - Another trained brain state would trigger a `browser_click` action.
 - Speech-to-text would specify which button or element to click.
- **Goal:** The user is excited to return to their roots by combining these different technologies to create a novel way of interacting with a computer.

@Tuesday 10AM

Our conversation last night was pivotal. What I mean is, our trains of thought somehow led me to decide that I won't be riding this "costly train" that is the **Silksong Controller V1** for much longer.


I've learned a ton about Android sensors. Turns out, there are way more of them than I realized, and some are perfect for my Silksong controller. Some are even low-powered! So, what I'm really saying is that downhill invention chat nudged me to check out all the possible Android sensors and take an empirical approach, inspired by our discussion about identifying the "simple sensors" && waiting until 2108 and seeing which hip-hop song tops the global charts.

Now that I've found more suitable sensors, I'm ditching assumption-from-experience-based design (which is just a fancy way of saying "upward analysis". too janky). Instead of using the gravity sensor to switch between walking and combat, I'm switching to the step sensor, for example. It's more accurate and power efficient for translating my real-world footsteps into in-game steps.

Funny how a random conversation can spark a whole new direction. One minute we're riffing about neurointerpretative arguments and chart-topping hip-hop, next thing you know, I'm rethinking my entire controller strategy. Sometimes, the neurons just connect in ways you don't see coming.

Last night's chat flipped a switch for me. Our wild train-of-thought ride somehow convinced me not to stay stuck on this costly track. Turns out, Android sensors are an entire buffet—some are way more suited for my Silksong controller project, and a few are even low-power. So, thanks to our downhill invention brainstorm (and that tangent about waiting till 2108 for the top hip-hop hit), I went full empirical and explored every Android sensor option.

Now, I'm ditching assumption-based design (aka "upward analysis"—sounds fancy, but really just means guessing) because it's too clunky. Instead of using the gravity sensor to switch between walking and combat, I'm switching to the step sensor for more accurate, power-efficient tracking. Real-world footsteps, meet in-game footsteps. Funny how a random conversation can fire up just the right neurons to spark a whole new direction.

 GitHub [GitHub - CarlKho-Minerva/v2_SilksongController_25TPE: Physic...](#)

6:06 PM

Almost there. **Everything works.** Just need to fine tune for fluid movement.

@Wednesday 1:09 AM

