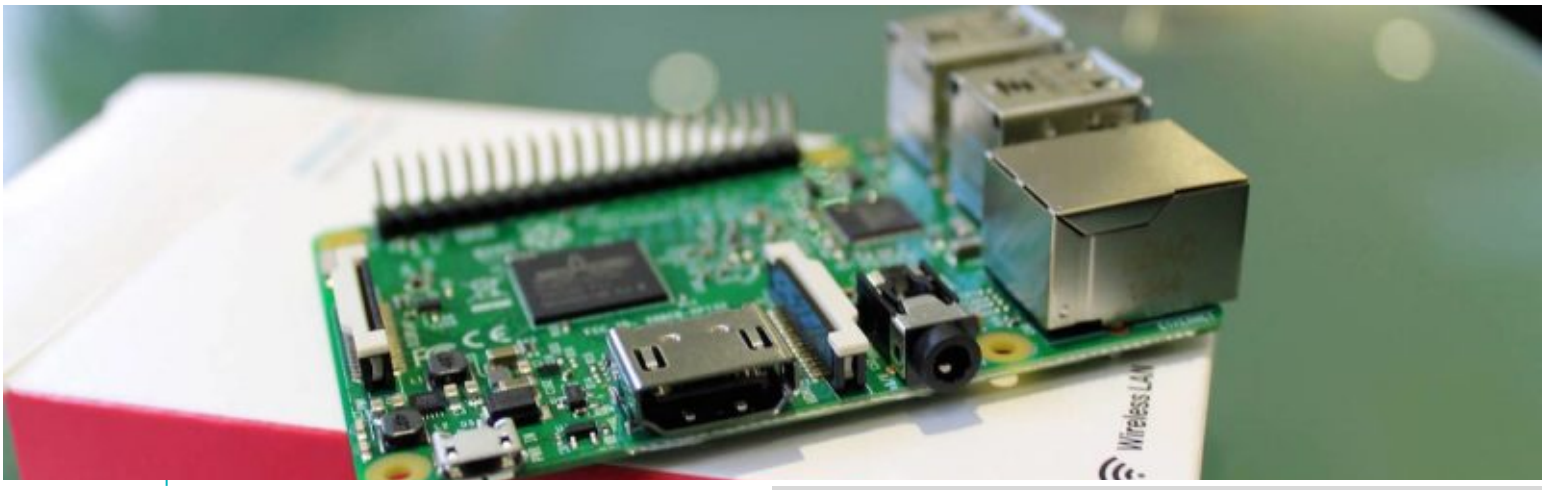
# PI4MICRONAUT

OPEN SOURCE WITH SLU AND THE UNITY FOUNDATION



## OUR MISSION

Our goal is to create a Java library using the Micronaut Framework and Pi4J to streamline the process of creating IoT web applications which utilize hardware connectivity to Raspberry Pi's.

## WHO IS THIS FOR?

We aim to provide Raspberry Pi users with a simpler way to implement their ideas on a Pi. This is useful for companies, hobbyists, and anyone else that wants to build a smart home, alarm system, or automate tasks around a home or facility, just to name a few ideas. The project possibilities are endless.

## PROGRESS

- Built and tested circuits for a slide switch, push button, and rotary encoder
- Incorporated Micronaut, Pi4J, and our library to demonstrate both library and hardware integration
- Going forward, we plan to implement more hardware components, working towards creating a larger project to demonstrate the full functionality of our library

## OUR DEVELOPMENT TEAM


### GREIH M.

A Master's student studying AI with interests in natural language processing and ML

Github: GreihMurray

### AUSTIN H.

A senior studying Computer Science with interests In Machine Learning, AI, and FinTech.

Github: austinjhoward

### TRAISON D.

A senior studying Computer Science with interests in AI, ML, and Computer Vision

Github: traison-diedrich

### SINUO L.

A senior studying Computer Science with interests in AI and software development.

Github: liusinuo2000


Interested in more? Visit our source code at

**HTTPS://GITHUB.COM/OSS-SLU/PI4MICRONAUT**

# PI4MICRONAUT

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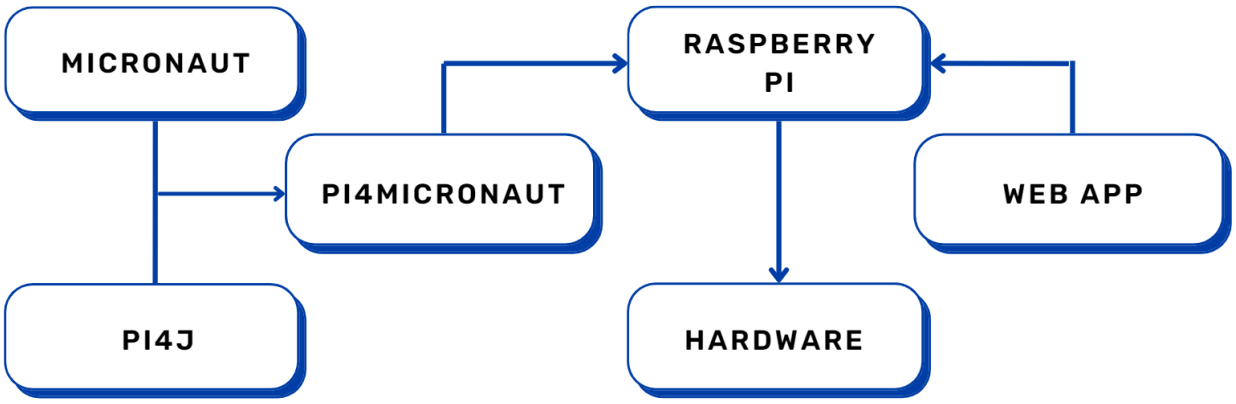
## DESIGN

Our library combines Micronaut, a framework for creating serverless applications, and Pi4J, a Java library which allows us to communicate with hardware devices connected to the Raspberry Pi. Our library is then able to both send and receive information from the Pi, which is connected directly to our hardware. A web application can then query the Pi for information from the hardware and also send data to the Pi which adapts the functionality of the hardware in real-time.

## PI4MICRONAUT ARCHITECTURE

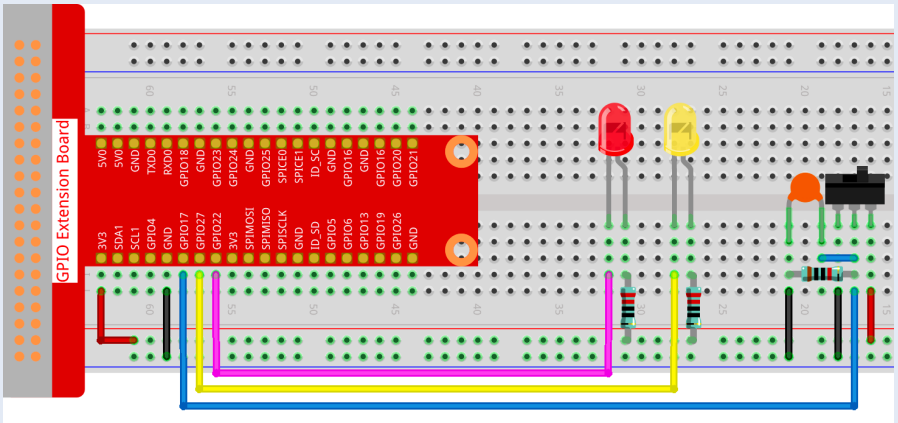



## SLIDE SWITCH CIRCUIT DIAGRAM

This Is an example of the diagrams we create for each component that we integrate into the library.

Diagrams like these will be provided within our library documentation. They are useful to anyone using the library, as It provides them with a base circuit that they can build and connect to their Pi's for testing, before moving onto unique circuits of their own.

Provided In the documentation will also be example code to accompany each example build, to test.

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