

**RTES**

# **PROJECT REPORT**

**EMBEDDED SENTRY**

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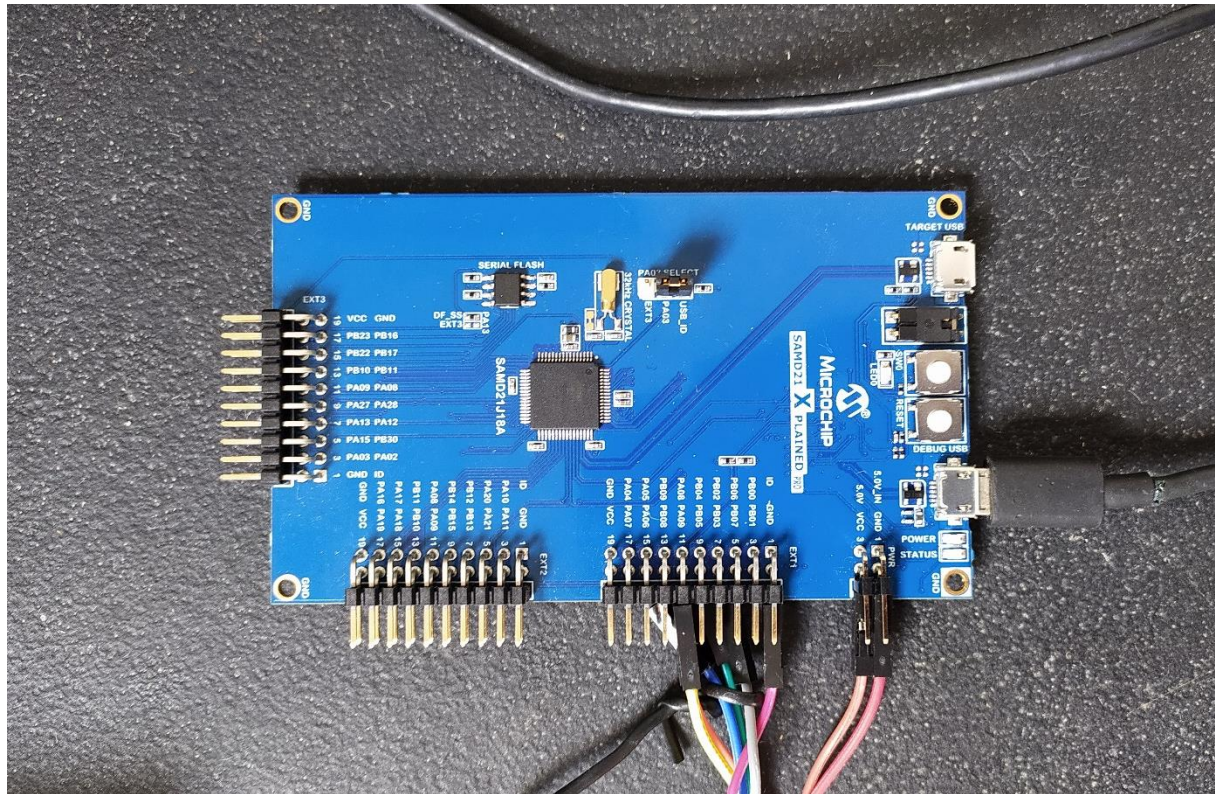
NETID: SKI227

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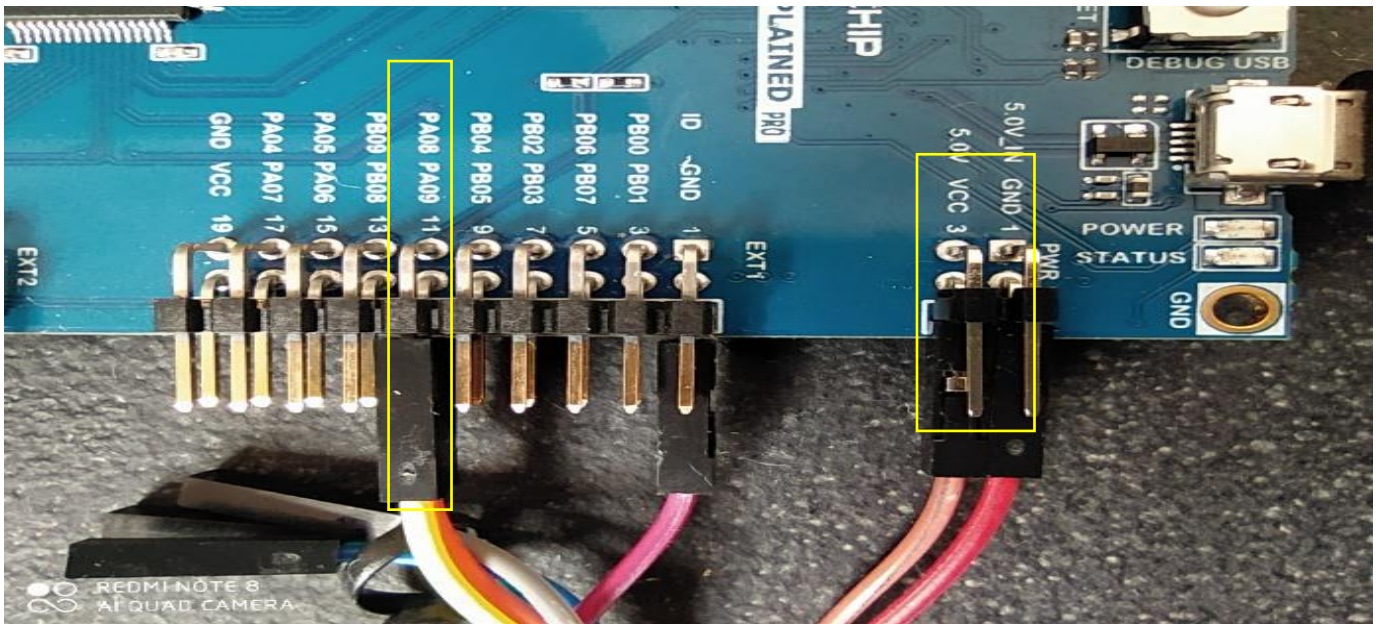
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## The Board and IDE Used.

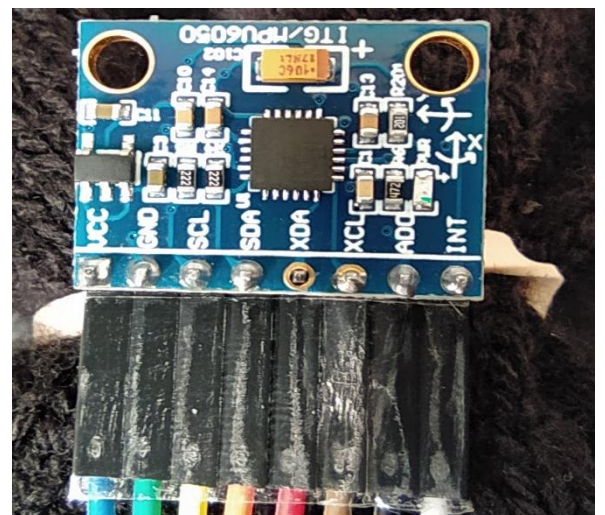
The Board Used is SAMD21 Xplained Pro. The IDE I am using is Arduino IDE 1.8.10. The Arduino IDE inherently does not come with support for SAMD21. I had to manually add certain libraries for the SAMD21 board. The Process is outlined in detail in the support document attached with this project report. I also used the MPU6050 library to accomplish the task.



## The Pin Diagram.



- The SDA line of the MPU 6050 is connected the PA08 pin of the Xplained pro. The SCL line is connected to the PA09 pin of the Xplained Pro. The Vcc of the MPU is connected to the Vcc pin of the Xplained Pro.





## The position and placement of Sensor.

The Sensor is placed under the Palm of a hand **FACE DOWN**. It is as shown in the image.

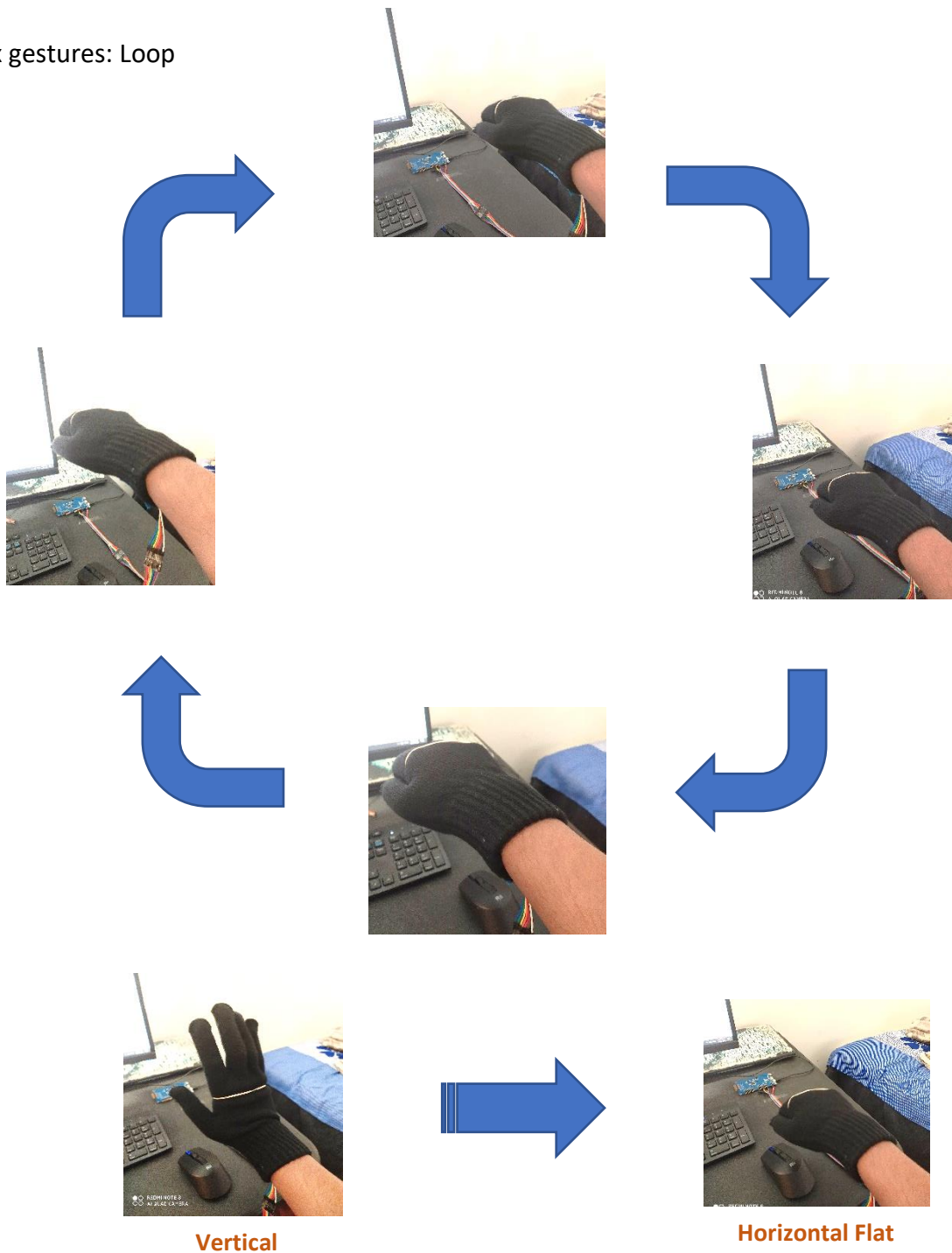


## The Unlock Gesture Analysis.

I am always fascinated by Ironman and the gesture he does to fire through his palm.

The Gestures are recorded at starting and then 3 times user gets a chance to verify his gesture. After the 3 times are over you can again record gesture by pressing the button once.

Ex gestures: Loop



Video Demonstration Links Below.

Youtube Link (public)

<https://youtu.be/EAzF-qWpPu4>