Project MilkBit
Fitbit... for cows!

About... The goal of this project is to create a **continuous body temperature monitor** for cows that is **cheap, portable, and wireless.**

Currently, **heat stress** is one of the biggest concerns in dairy cattle barns with increasing production of dairy products and global warming. Experiencing heat stress not only **affects the well-being** but also significantly lower the **milk production potential** of cows. Because cows aren't outwardly expressive when heat stressed, it is important for farmers/producers to be able to monitor cow's body temperature so they can adjust the barn environment accordingly.
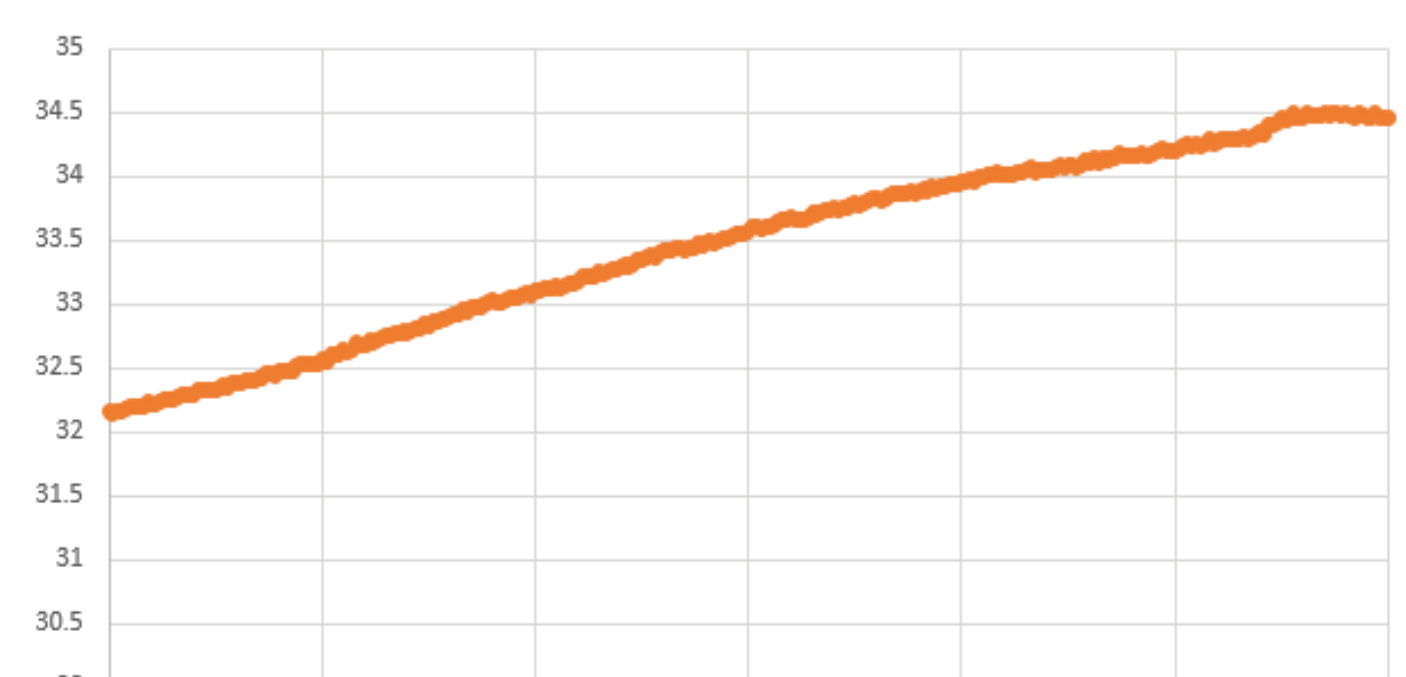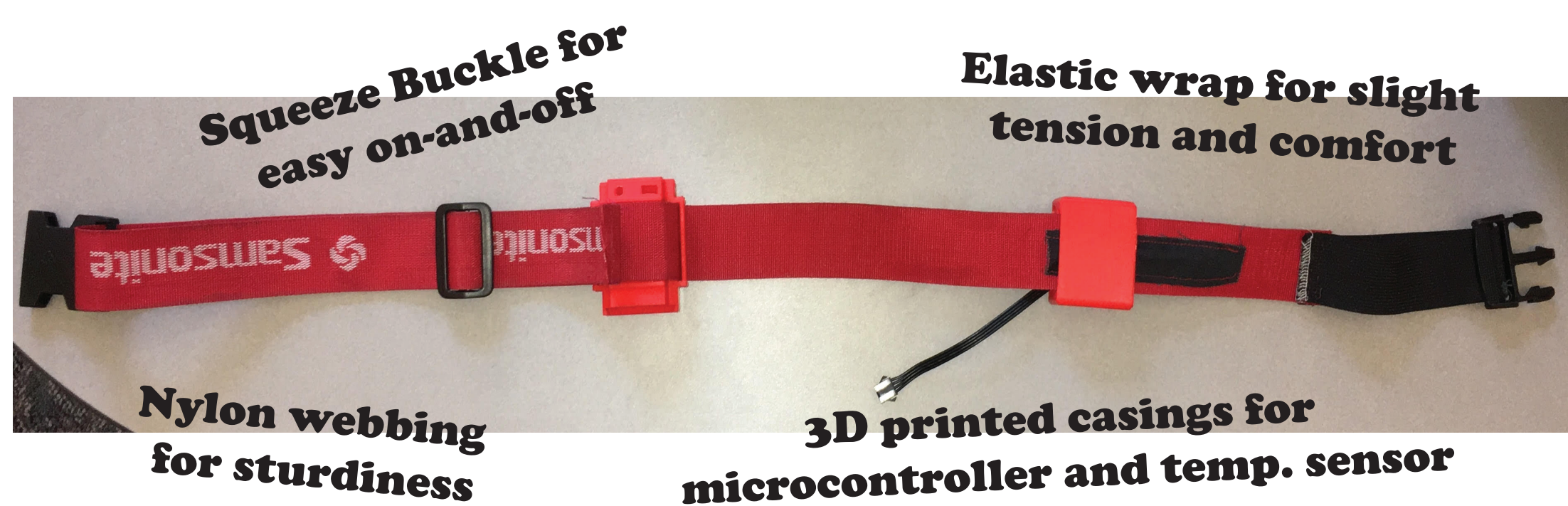
MilkBit is unique in a way that no commercial health monitor for cows offers a **real-time body temperature monitor that is non-invasive and affordable** (Total Cost: ~$50).

How it works:

1. The sensor in MilkBit measures the temperature.

2. The data is transmitted wirelessly between two Lora (Radio) MCUs.

3. Farmers/Producers are able to see the temp. data on their electric devices.

The MilkBit Collar:

Squeeze Buckle for easy on-and-off

Elastic wrap for slight tension and comfort

Nylon webbing for sturdiness

3D printed casings for microcontroller and temp. sensor

Preliminary Reading (on human's chest). In Celsius, the temperature measurements stailized at around 34.5 C, which is close to the average chest area temperature.

Future direction?

When it comes to sensors and microcontroller, there can always be **improvements is power consumption, accuracy, etc.** Body temperature holds many important information for not just cows but human as well: **sickness, calory burning, etc.** If Milkbit technoly is **more robust and smaller in the future**, perhaps it can be integraded into currently availalbe health monitoring systems like FitBit and help monitoring the body temperature of **human in real-time, everywhere and anywhere!**

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https://wearabletech2018.wiscweb.wisc.edu/category/projects/milkbit/

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