



Walker

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Walker

- A health and fitness wearable device
- Functionalities
 - Heart rate monitor
 - Pedometer
 - Healthy aging application



Heart Rate Monitor

- Measures the users heart rate
- Filtering
 - HPF (high pass filter)
 - LPH (low pass filter)
 - Remove HR when the variation is more than 2 standard deviations
- Displays it through the OLED screen



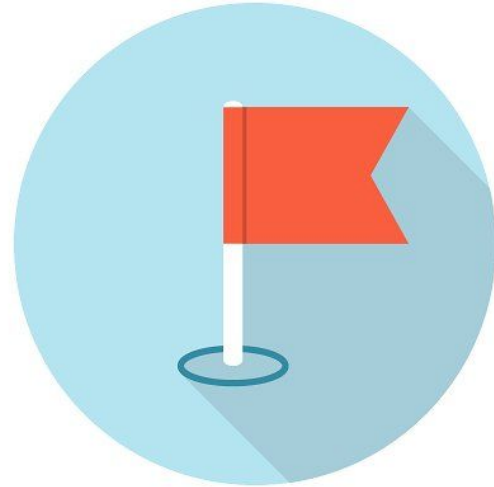
Pedometer

- Using MPU to check for gyroscope data
- Filter process to weed out over count
 - LPF
 - HPF
- Double checking to prevent undercount
 - Look at change in time between each step



Healthy Aging Application: Step Goals

- **For:** people looking to build a regular routine of an active lifestyle
- **Problem:** Lacking a method to motivate one to have a consistent active lifestyle
- **Solution:** Creating a step counter with minimum daily step goals and incentive to improve your health by showing your progress





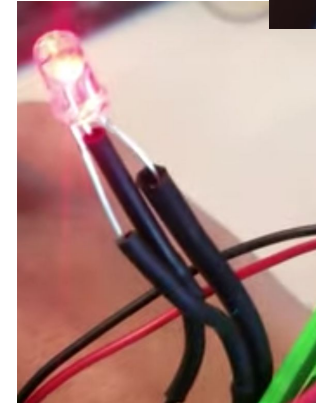
Why?

The study tracked the steps of 1,136 adults around the United States who wore pedometers for two days. The results were compared to similar pedometer studies in Switzerland, Australia and Japan. The data collected showed that Americans, on average, took 5,117 steps a day, far short of the averages in western Australia (9,695 steps), Switzerland (9,650 steps) and Japan (7,168 steps).

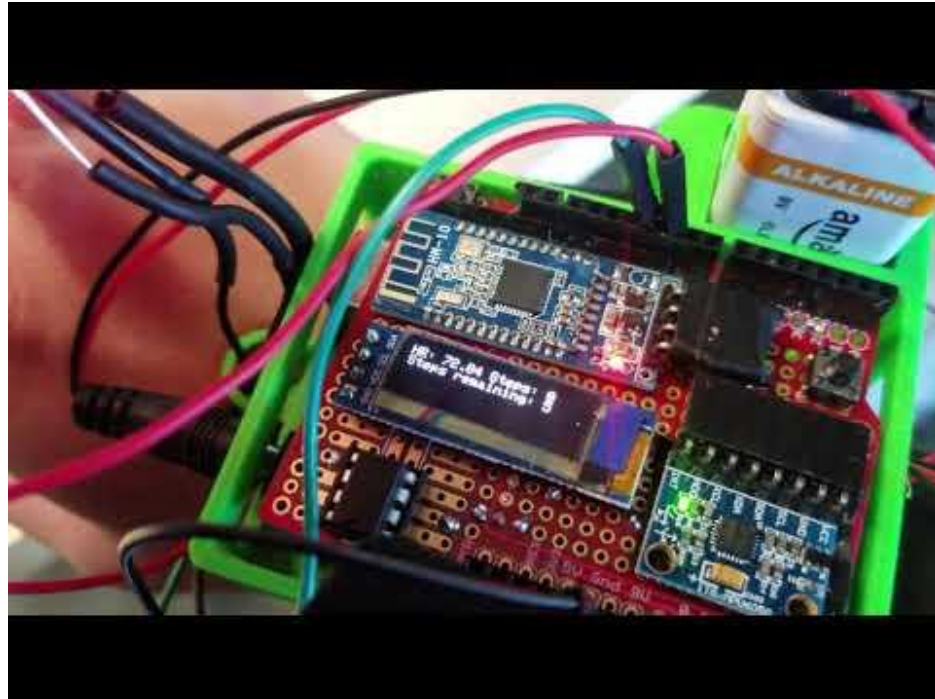
So we want to get more people to walk more through a mental reward system.

What it does

- The user will input their daily step goal
- The LED will be red and tell the user how many steps left for the day
- The LED will turn green when the step count is reached for the day



Demonstration



Conclusion

Walker is a health and fitness wearable device that seeks to motivate users into an active lifestyle.

