

# WEARABLE WEIGHT TRAINING ASSISTANT

M. Priyadarshani, S. Rajamanthri, I. Rajapaksha, S. Ramana yake

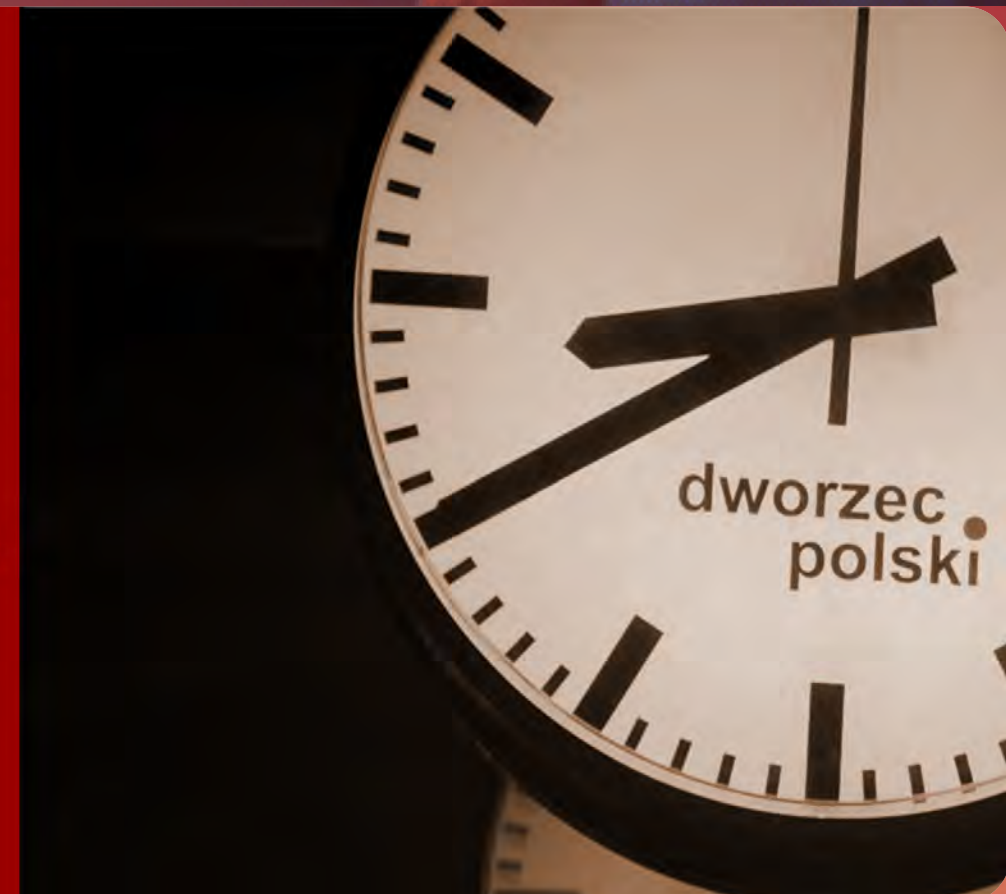
## Problem

There are lot of people involved in weight training nowadays, without proper knowledge!



## Solution

Real time movement analysis of athletes, with a wearable device which enables correction of their movements at the same time.

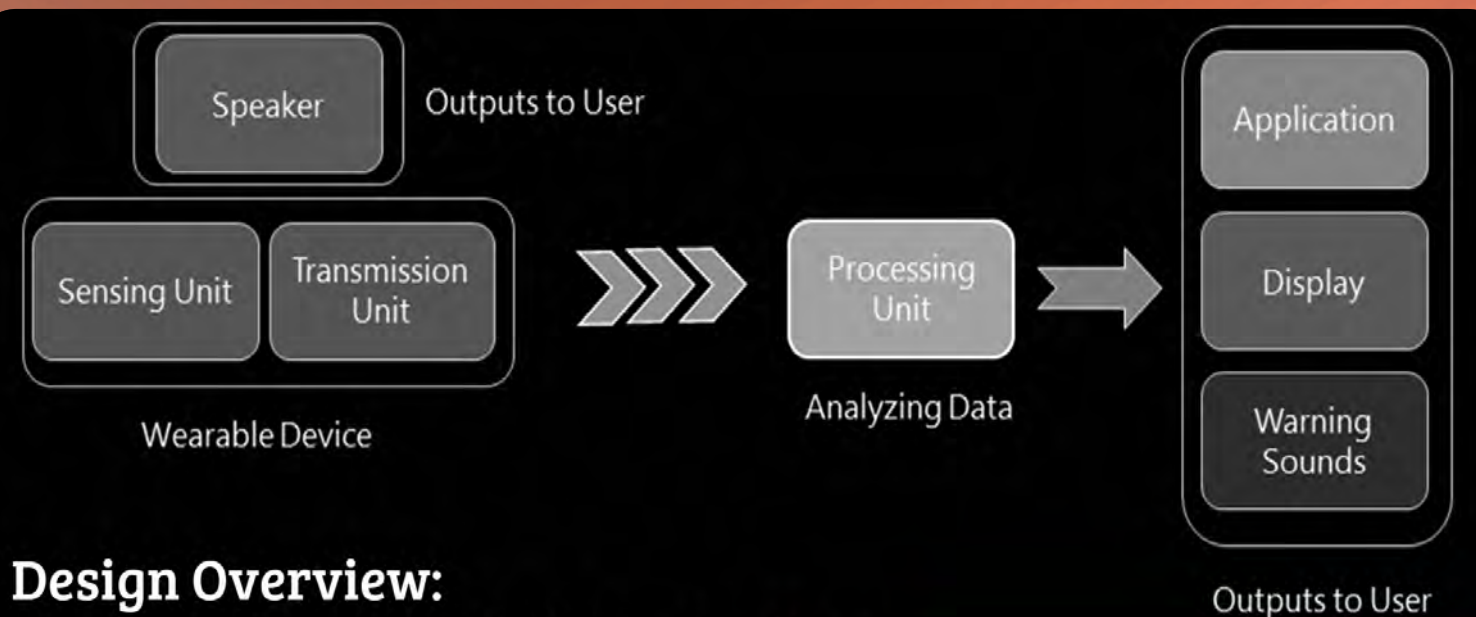


There are available systems that use image processing

<https://www.smartspot.io/>

Ours is the first ever product of this type using this technology

**Train like a Professional!**



**Design Overview:**

EMG Technology

Wireless transmission of data

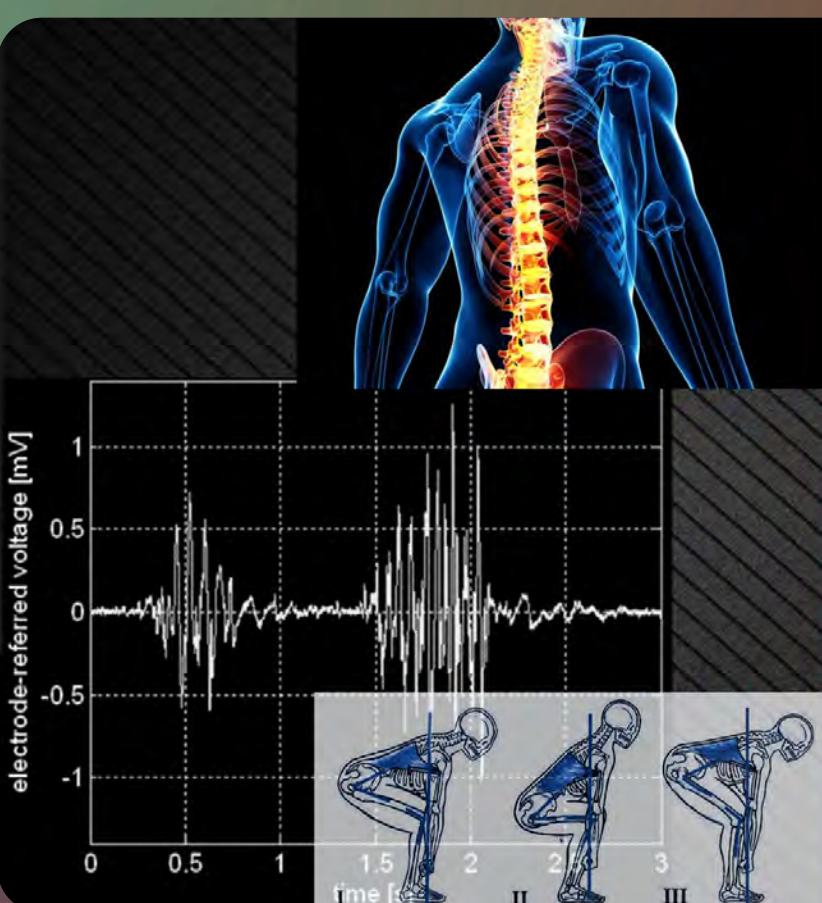
Separate Processing Unit to analyze data

## Underlying Tech for Error Detection

Pattern matching of the signals generated in symmetric body parts

Rhythm detection

Spine curvature detection

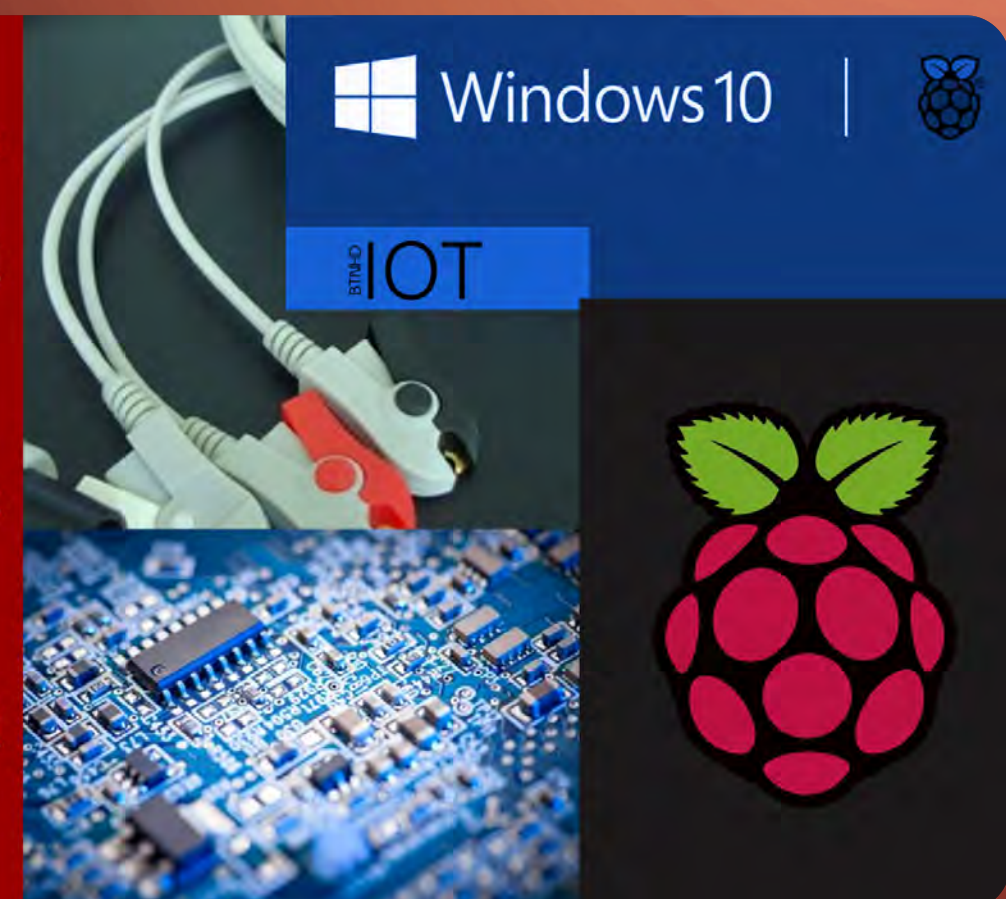


## The Future...

EMG Electrode attached to the belt and EMG circuit building.

Processing data done in Windows IoT core, runs on Raspberry Pi.

Output LCD display and input buttons on the belt.



Second Annual  
**Embedded System Projects Expo 2016**

presented by Third Year Students  
Department of Computer Engineering, University of Peradeniya