



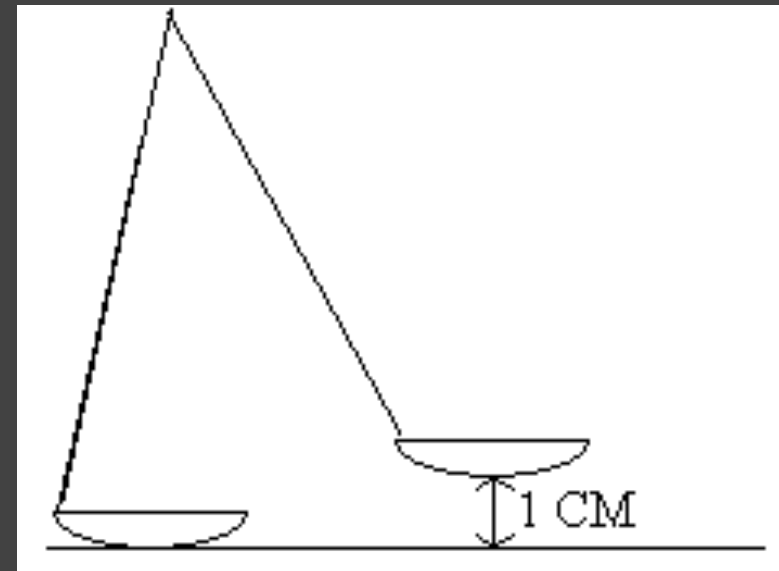
Cornell University

**Avtar Khalsa  
Walking Robot  
Spring 2007**



## The Goal

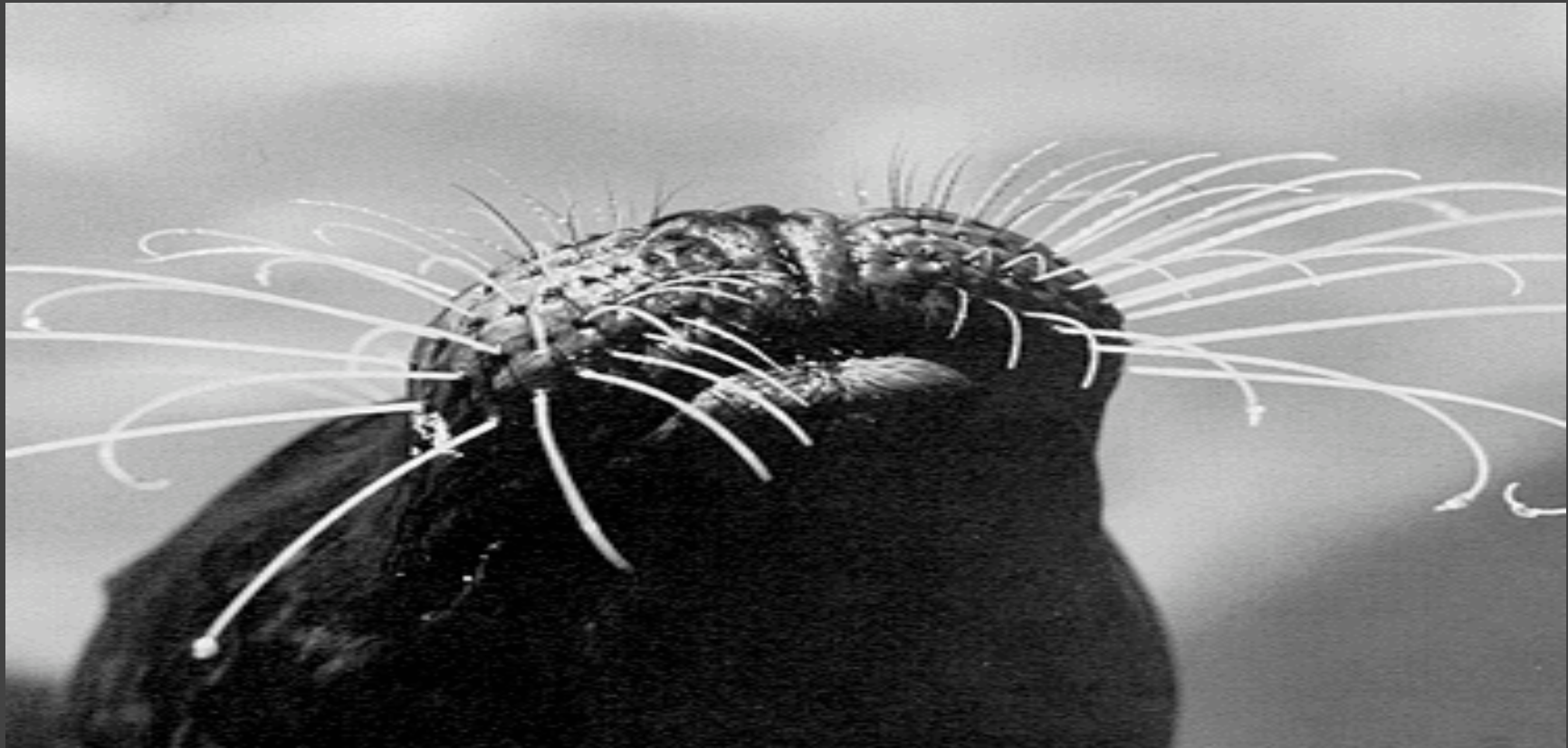
- It is beneficial to know when the swing foot is about 1cm off the ground, and about to hit.
- Potential for a 4x performance boost





Cornell University

## The Old Solution: Whiskers





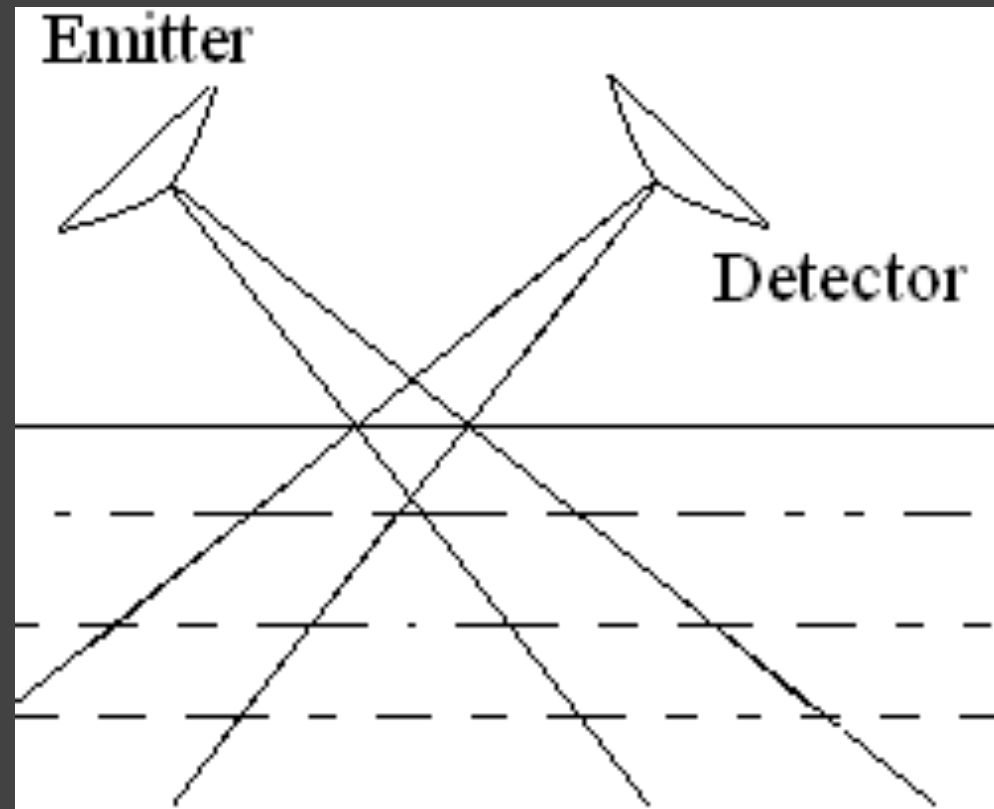
## Solutions that we looked into:

- Infrared : Too sensitive to either ambient light, or reflectivity of surface below, would need to be constantly recalibrated
- Acoustic: Too slow, too much power
- Capacitive: Similar problems as Infrared, also more complicated, and needs too much power



Cornell University

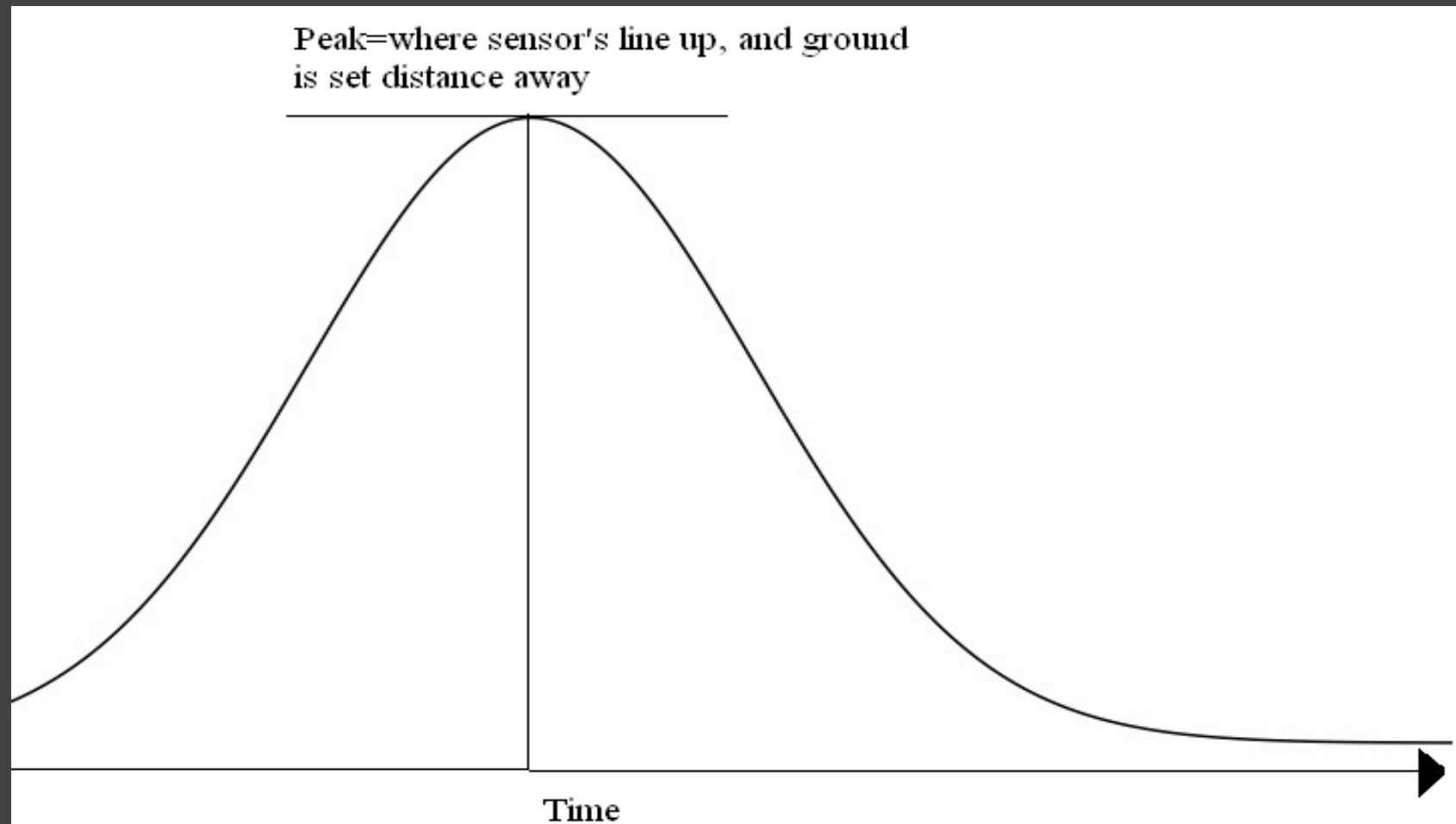
# Solution

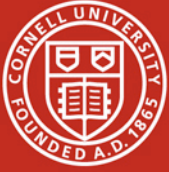




Cornell University

# Expected Pattern at the reciever





Cornell University

# Reducing Ambient Light Effect:

