MSDII Testing – Sub-Terrain testing

Team: P15001: Active Ankle Foot Orthotic
Engineer: Jared Green Mechanical Engineer

Related System: Monitor gait and surroundings (ABBA)

This test can help determine whether the IR sensor works properly under sub-terrain conditions. It would help to mitigate the risk of the IR sensor not working properly.

Engineering Requirements:

ER11: Response Time of Terrain Sensor (ms)
Ideal Value: 100
Marginal Value: 200

ER12: Percentage of time object detected by sensors (%)
Ideal Value: 90
Marginal Value: 80

Testing Plan

1. Use the working IR sensor assembly and Arduino functions, perform a few levelground walking trials on at least three different sub-terrains (ex. Carpet, hardwood floor, white tile, grass, gravel)
2. Interpret the data
3. See if the sensor senses any changes based on sub-terrain characteristics.
4. Identify any action items if the sensor picks up any abnormalities

Start Date: First Week of classes
End Date: Second or Third week of classes

Location
Engineering Building

Budget

Equipment	Price	Quantity
IR sensor	Included	
Arduino	Included	
Total:		