

# Data Analysis on iPhone signal readings

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# Recap

- Stated problem and introduced results from experimentation
- Discussed a solution
- Briefly talked about implementation of app
- Went over preferred features of the app
- Talked about another app that deals with data reading of different sensors
- Talked about how app will be implemented and how it will work
- Future work

# Results: Walking

- 220 samples collected
- Consistent data throughout

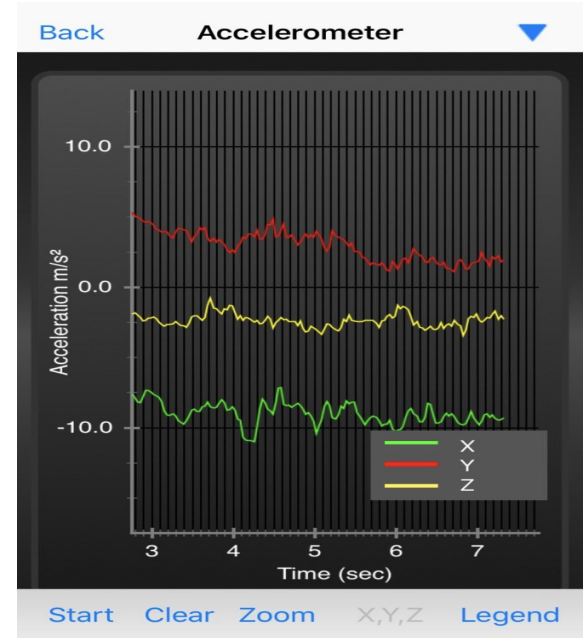
Timer = 7s

Avg X Value: -8.9056

Avg Y Value: 3.7431

Avg Z Value: -1.8639

Walking Algorithm / Computation\_Delay:  $\sqrt{x^2 + y^2 + z^2} = 9.8384$



# Results: Forward Fall

- 110 samples collected
- Inconsistent data during fall

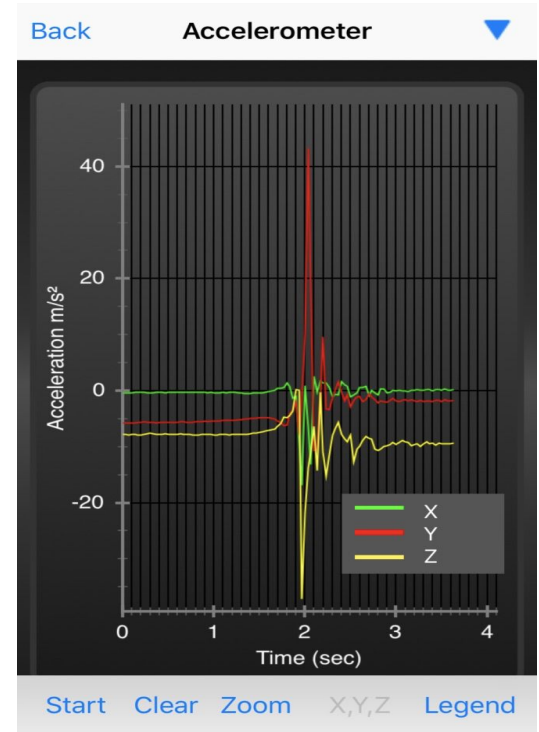
Timer = 3.5s

Avg X Value: 0.4279

Avg Y Value: -4.6056

Avg Z Value: -5.6699

Forward Fall Algorithm / AccelerometerForceLimit:  $\sqrt{x^2 + y^2 + z^2} = 7.3173$



# Results: Backward Fall

- 72 samples collected
- Fairly consistent data collected during fall

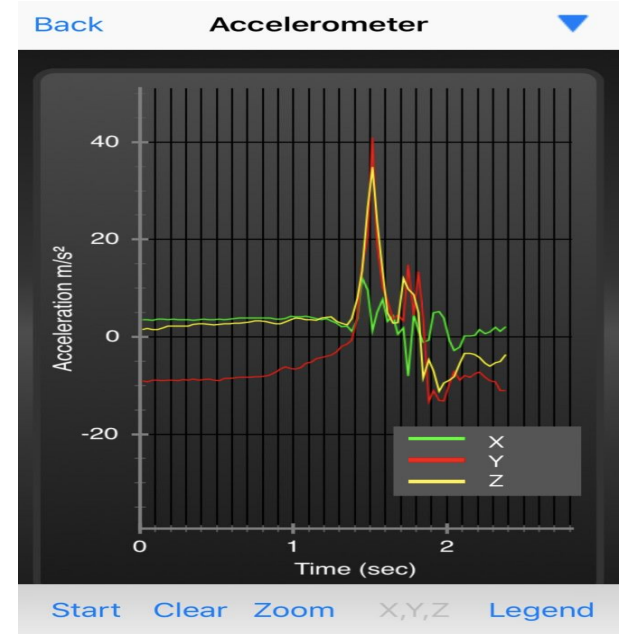
Timer = 2.5s

Avg X Value: 0.8537

Avg Y Value: -7.6115

Avg Z Value: -3.7967

Backward Fall Algorithm /AccelerometerForceLimit:  $\sqrt{x^2 + y^2 + z^2} = 8.5486$



```
// AppDelegate.m
// test
//
// Created by Kingsley Udoyi on 2/14/18.
// Copyright © 2018 Kingsley Udoyi. All rights reserved.
//
```

```
#import "AppDelegate.h"
```

```
@interface AppDelegate ()
```

```
@end
```

```
@implementation AppDelegate
```

```
- (BOOL)application:(UIApplication *)application didFinishLaunchingWithOptions:(NSDictionary *)launchOptions {
    // Override point for customization after application launch.
```

```
    NSLog(@"Application did finish launching");
```

```
    UIScreen *screen = [UIScreen mainScreen]; // Gets main screen
```

```
    CGRect viewRect = [screen bounds]; // gets bound of screen
```

```
    NSLog(@"Screen is %f tall and %f wide",
```

```
          viewRect.size.height, viewRect.size.width); //sets the bounds of the screen
```

```
    return YES;
```

```
}
```

```
- (void)applicationWillResignActive:(UIApplication *)application {
```

```
    // Sent when the application is about to move from active to inactive state. This can occur for certain types of temporary
    // interruptions (such as an incoming phone call or SMS message) or when the user quits the application and it begins the
    // transition to the background state.
```

# Future Work

- Work on website
- Continuing coding and working on design of app through XCode
- Finish algorithms for remainder of falls
- Start trying to figure out how to navigate calibration issue