iPhone Hardware

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Accelerometer

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- Accelerometer
- Location services

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Location services

Building a phone application from start to finish

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Accelerometer

- Responds to changes in acceleration of the phone.
- Knows relative orientation of phone in regards to up and down
- Three axis accelerometer — receive changes in x, y, and z.
Using the accelerometer

- Add yourself as delegate of UIAccelerometer.
- Override a delegate method.
Using the accelerometer

• Add yourself as delegate of UIAccelerometer.
• Override a delegate method.

In MyClass.m

@interface MyClass : NSObject <UIAccelerometerDelegate> {}
@end
Using the accelerometer

- Add yourself as delegate of UIAccelerometer.
- Override a delegate method.

In MyClass.m

```objc
@interface MyClass : NSObject <UIAccelerometerDelegate>
@end
```

```objc
- (id)init... {
    if ((self = ...)) {
        [[UIAccelerometer sharedAccelerometer] setDelegate:self];
    }
}

- (void)accelerometer:(UIAccelerometer *)accelerometer
didAccelerate:(UIAcceleration *)acceleration
{
    // called when any acceleration changes
}
```
iPhone Hardware

Accelerometer ✓
Location services

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Location Services

• Framework to use is CoreLocation.
• Provides an abstract layer to navigation based hardware.
  ▪ Location from cellular network.
  ▪ Location from GPS receiver.
• Key concept: power consumption — CoreLocation eats power.
CoreLocation

• How to start receiving location updates:
  ▪ Create location manager.
  ▪ Set yourself as the delegate.
  ▪ Set a desired accuracy.
  ▪ Set an optional threshold (recommended)
  ▪ Start reading location data!
Location considerations

• Choose the lowest accuracy you need.
• Turn off the location manager if you have not moved much.
• Use location services efficiently.
Demo

Building a location-driven application
iPhone Hardware

- Accelerometer ✓
- Location services ✓
- Building a phone application from start to finish ✓

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