**Topic: Geolocation**  
(Previous topic: Web Services)

Announcements

* The term project beta is due next Saturday, June 4. You don’t need to submit it to Moodle, just send a copy to your code review partner.

Geolocation

Android Location Services API vs. the Fused Location Provider vs. Xamarin Geolocator Plugin

Sidebar: Google Play Services

* Android Location Service API
  + *LocationManager*
    - Asynchronous interface, need to implement *ILocationListener*
  + Specific types of location provider
    - *LocationManager.GpsProvider*
    - Network Provider
    - Passive Provider (uses location data obtained by other applications- if the data exists)
    - *LocationManager.GetBestProvider(locationCriteria, true)*
  + Location Permissions
    - ACCESS\_FINE\_LOCATION – GPS, Required for GPS Provider and Passive Provider
    - ACCESS\_COARSE\_LOCATION – Cellular and Wi-Fi, Required for Network Provider (unless fine location is set)
* Fused Location Provider
  + Part of Google Play Services (so is the Android Location Service API)
  + Switches dynamically between providers to use the best provider available at any given time.
  + Features:
    - Geofencing
    - Activity Monitoring (?)
    - More
  + *LocationClient*
    - Get last known coordinates
    - Get continuous updates – implement *ILocationListener*
    - *LocationRequest* – similar to Criteria for LocationManager.GetBestProvider
      * Balanced Power/Accuracy (102) - coarse accuracy ~ 100 meters, medium power drain, default setting.
      * High Accuracy (100) – highest accuracy, highest power drain.
      * Low Power (104) - coarse accuracy ~ 10 kilometers, lowest power drain.
      * No Power (105) – similar to a Passive Provider, only providing location updates when requested by other apps.