PROG3150 Lecture 3

Mobile Application Development

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Agenda

- Preferences
- GPS

Preferences Store

- A permanent place to store small bits of information
- Normally used in conjunction with a preferences page

Android

```
import android.content.SharedPreferences;

…

SharedPreferences gameSettings =
          getSharedPreferences("MyGamePreferences",
                               MODE_PRIVATE);
SharedPreferences.Editor prefEditor =
          gameSettings.edit();

prefEditor.putString("UserName", "Guest123");
prefEditor.putBoolean("PaidUser", false);
prefEditor.commit();

Boolean b = gameSettings.getBoolean(“PaidUser”);
String s = gameSettings.getString(“UserName”);
```

Windows Phone 7

```
IsolatedStorageSettings iss =
                IsolatedStorageSettings.ApplicationSettings;
if (!iss.Contains(“userName”))
     iss.Add(“userName”, value);
else if (iss[“userName”] != value)
     iss[“userName”] = value;

if (iss.Contains("userName"))
    userName = (string)iss["userName"];
else
    userName = string.Empty;
```

Blackberry 7

```
PersistentObject o =
          PersistentStore.getPersistentObject(0xDEADBEEF);
o.setContents(userName);
o.commit();

--

String userName = (String)o.getContents();
```

Windows 8

```
ApplicationDataContainer ls =
                    ApplicationData.Current.LocalSettings;
ApplicationDataContainer adc =
                  ls.CreateContainer(“settings”,
                  ApplicationDataCreateDisposition.Always);
if (ls.Containers.ContainsKey(“settings”))
    ls.Containers[“settings”].Values[“userName”] =
                                                  userName;
```

iPhone

```
NSString *userName = @”userName”;

NSUserDefaults *prefs = [NSUserDefaults
                                        standardUserDefaults];
[prefs setObject:userName forKey:@"userName"];
[prefs synchronize];

userName = [prefs stringForKey:@"userName"];
```

BB10

- Standard file I/O in application's 'data' directory.

GPS

Blackberry 7

```
SimpleLocationProvider slp;

BlackberryLocationProvider blp =
                              (BlackBerryLocationProvider)
                               BlackBerryLocationProvider.
                                        getInstance(criteria);
slp.updateLocationProviderReference(blp);

return (BlackBerryLocation)slp.getLocation(timeout);

NOTE: SimpleLocationProvider is not a part of the BB
standard api
```

Android

```
Location currentLoc;

LocationManager lm = (LocationManager)this.getSystemService
                                    (Context.LOCATION_SERVICE);
LocationListener ll = new LocationListener() {
   public void onLocationChanged(Location l) {
      currentLoc = l;
   }
   public void onStatusChanged(String provider,
                               int status, Bundle extras) {}
   public void onProviderEnabled(String provider) {}
   public void onProviderDisabled(String provider) {}
};

lm.requestLocationUpdates(LocationManager.GPS_PROVIDER,
                                    0, 0, locationListener);
```

WP7 / Windows 8

```
GeoCoordinateWatcher gcw = new
            GeoCoordinateWatcher(GeoPositionAccuracy.High);
gcw.MovementThreshold = 20;
gcw.StatusChanged += new
            EventHandler<GeoPositionStatusChangedEventArgs>
            (gcw_StatusChanged);
gcw.PositionChanged += new EventHandler
               <GeoPositionChangedEventArgs<GeoCoordinate>>
               (gcw_PositionChanged);

void gcw_PositionChanged(object sender,
             GeoPositionChangedEventArgs<GeoCoordinate> e){
    coord = e.Position;
}

void gcw_StatusChanged(object sender,
                       GeoPositionStatusChangedEventArgs e){
}
```

iPhone

```
- (void)startStandardUpdates
{
    // Create the location manager if this object does not
    // already have one.
    if (nil == lm)
        lm = [[CLLocationManager alloc] init];

    lm.delegate = self;
    lm.desiredAccuracy = kCLLocationAccuracyKilometer;

    // Set a movement threshold for new events.
    lm.distanceFilter = 500;

    [lm startUpdatingLocation];
}
```

iPhone

```
// Delegate method from the CLLocationManagerDelegate
protocol.
- (void)locationManager:(CLLocationManager *)manager
    didUpdateToLocation:(CLLocation *)newLocation
    fromLocation:(CLLocation *)oldLocation
{
    // If it's a relatively recent event, turn off updates
to save power
    NSDate* eventDate = newLocation.timestamp;
    NSTimeInterval tm = [eventDate timeIntervalSinceNow];
    if (abs(tm) < 15.0)
    {
        NSLog(@"latitude %+.6f, longitude %+.6f\n",
              newLocation.coordinate.latitude,
              newLocation.coordinate.longitude);
    }
    // else skip the event and process the next one.
}
```

BB 10

```
bps_initialize();
geolocation_request_events(0);
geolocation_set_period(1);

bps_event_t *e = NULL;
bps_get_event(&e, -1); // wait forever

if ((e!= null)&&
    (bps_event_get_domain(e) == geolocation_get_domain())&&
    (bps_event_get_code(e) == GEOLOCATION_INFO)) {
    double latitude = geolocation_event_get_latitude(e);
    double longitude = geolocation_event_get_longitude(e);
}
```