

Android - GPS

- This application allows the user to see their current location based on latitude and longitude
- The latitude and longitude gets updated on change of location
- `LocationListener` is used as callback whenever there are location events
- The permission `android.permission.ACCESS_FINE_LOCATION` has to be declared in `AndroidManifest.xml`
- `LocationManager` is used to access the GPS information on the device
- The location information can be obtained in 3 ways :
 - `NETWORK_PROVIDER`
 - `GPS_PROVIDER` (used in the example)
 - `PASSIVE_PROVIDER`
- **Override** `onLocationChanged()`
 - Called when the location has changed
 - To update the change in latitude and longitude

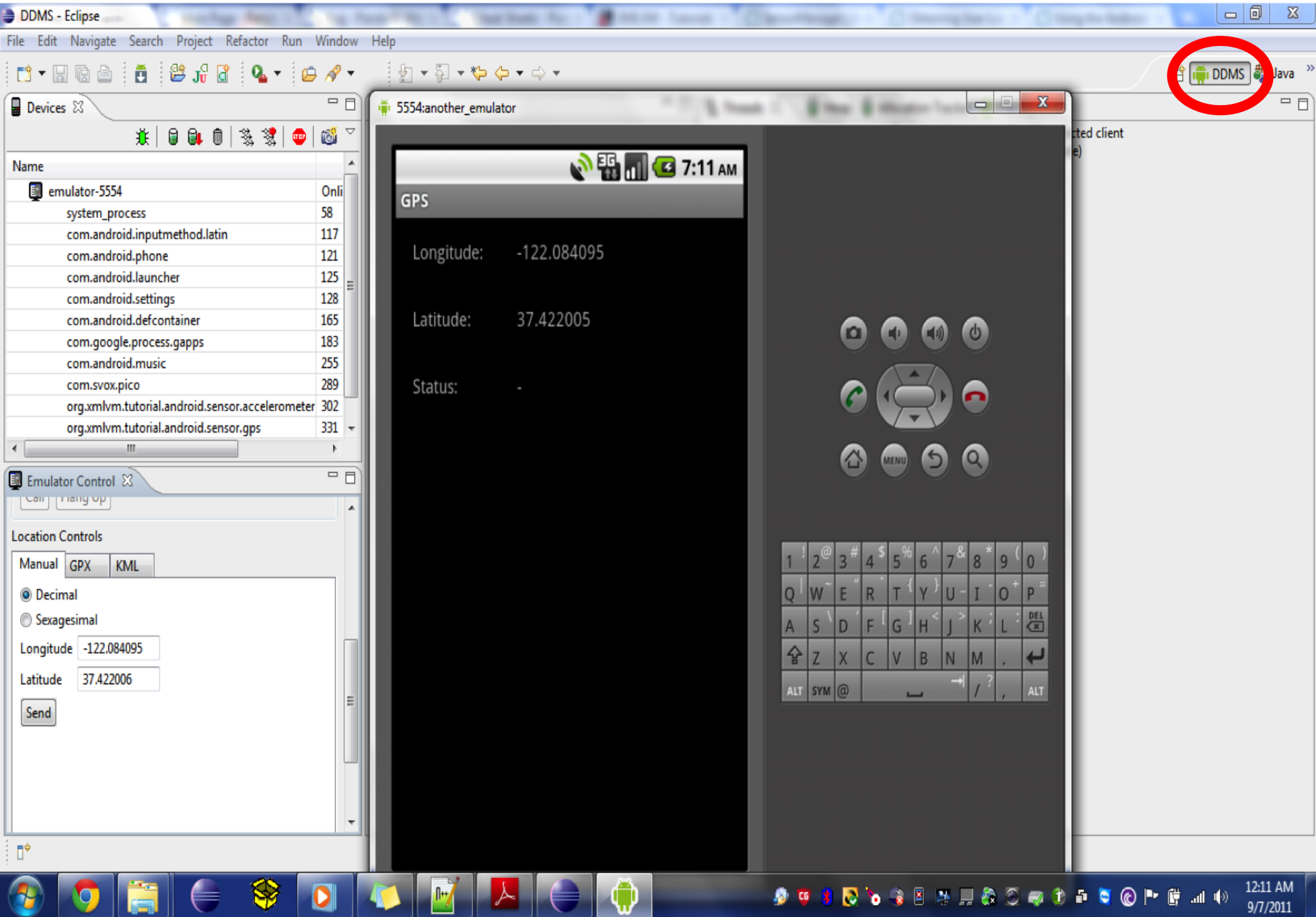
- The other callback methods are:
 - `onProviderDisabled()`
 - Called when the provide is disabled by the user
 - `onProviderEnabled()`
 - Called when the provider is enabled by the user
 - `onStatusChanged()`
 - Called when the provider status changes
- It may take a while for GPS information to be obtained
- Good practice to display the last known location whenever available
- `getLastKnownLocation()`
 - Gets the last known location
 - Returns `Location` object from which longitude and latitude from previous session can be obtained using `getLongitude()` and `getLatitude()`

Using the "geo fix" command in the emulator console

- To send mock location data from the command line.
- Launch your application in the Android emulator and open a terminal/console in your SDK's /tools directory.
- Connect to the emulator console. Use the command:
`telnet localhost <console-port>`
telnet localhost 5554
- Send the location data:
geo fix longitude latitude altitude
- This command accepts a longitude and latitude in decimal degrees, and an optional altitude in meters. For example:
geo fix -121.45356 46.51119 4392

Three ways to emulate GPS using DDMS

- Switch to the DDMS (Dalvik Debug Monitor Service) perspective.
- Using the Manual tab under Location Controls, manually send individual longitude/latitude coordinates to the device.
- Use a GPX file describing a route for playback to the device.
- Use a KML file describing individual place marks for sequenced playback to the device.



Reference

- [LocationManager](#)
- [LocationListener](#)

Exercise

- Add another label that displays the accuracy of the Location object.