Compass

Introduction

- The android platform includes the support for a compass.

  We can access that compass and use the data it generates.

The `SensorManager` Class

- The android compass is available through the `SensorManager` class.
- Using the compass we can perform the following operations:
  + Determine the current orientation of our hardware
  + Monitor for changes in its orientation
  + Know the direction the user is facing

The `SensorManager` Class

- In order to get data from the compass the device includes we should register a `SensorListener` object for our `SensorManager` object.

```
...
SensorManager sm = (SensorManager)getSystemService(
    Context.SENSOR_SERVICE);
SensorListener listener = new CompassListener();
sm.registerListener(   listener,
                       SensorManager.SENSOR_ORIENTATION,
                       SensorManager.SENSOR_DELAY_NORMAL);
...
```

The `SensorListener` Interface

```
class CompassListener implements SensorListener
{
    public void onSensorChanged(int sensor, float[] values)
    {
        if (sensor == SensorManager.SENSOR_ORIENTATION)
        {
            float x = values[SensorManager.DATA_X];
            float y = values[SensorManager.DATA_Y];
            float z = values[SensorManager.DATA_Z];
            ...
        }
    }
    public void onAccuracyChanged(int sensor, int accuracy)
    {
        ...
    }
}
```