


Andro-duino-meda

Android + Arduino

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Agenda

- ▶ Goal
 - ▶ Pre requisites
 - ▶ Installation & pitfalls
 - ▶ Android calling Arduino
 - ▶ Arduino calling Android
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Goal

- ▶ Make an Android phone and an Arduino sing the blues to each other

Pre requisites

Hardware

- ▶ Android phone
- ▶ Arduino (~\$30)
- ▶ Bluetooth modules (\$15– \$60)

Software

- ▶ Android IDE
 - ▶ Eclipse IDE
 - ▶ Android SDK
 - ▶ Amarino Toolkit
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Installation & pitfalls

- ▶ Arduino IDE setup
 - Check serial port
 - Check serial port speed (57600)
 - Arduino has ONLY ONE hardware serial
 - ▶ Bluetooth module
 - Configured to 57600 bauds
 - ▶ Eclipse SDK setup
 - Android SDK
 - ▶ Amarino Toolkit setup
 - Amarino Toolkit App for Android
 - Arduino Library (MeetAndroid)
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Android calling Arduino

- ▶ Sending Events from the Android
- ▶ Many events supported:
 - Compass
 - Accelerometer
 - Orientation
 - Magnetic Field
 - Phone State
 - Light Sensor
 - Proximity Sensor
 - Battery
 - Receive SMS


Android calling Arduino

- ▶ Send data from Android using the 'Test Event'
- ▶ Blink LED on receiving data
 - LED delay time received from the Amarino app

Arduino calling Android

- ▶ SensorGraph example
 - Arduino code
 - Read analog input data from the Arduino
 - Send data to phone over Bluetooth
 - Android java code
 - Receive data
 - Render the data as a graph

Next Steps

- ▶ Use other Android events
 - ▶ Data collection from an Arduino
 - ▶ Custom Android application using the Amarino API
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References

- ▶ **Arduino**
 - www.arduino.cc
 - ▶ **Eclipse**
 - www.eclipse.org
 - ▶ **Android SDK**
 - developer.android.com
 - ▶ **Amarino Toolkit**
 - www.amarino-toolkit.net
 - ▶ **Bluetooth module**
 - www.mdply.com
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