

Where's the Data? A Device Kit Tutorial.

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| Emerging Technologies | Tutorial | 100% | 9 | 0 | Mon. | 4:00 | Room 201 |

Today's Service-Oriented enterprise solutions can only make the correct decisions when they have the latest and most accurate data. This data is collected by a variety of sensor devices, each of which has its own message format, software interface, and physical connection. There is no accepted, standard way to interface these sensors and devices into such an enterprise system. What is needed is a technology that breaks software's serialized dependency on its hardware platform, while extending the service model to the device layers.

Enter Device Kit, an emerging technology, from the Service-Oriented Device Architecture (SODA) initiative within the Open Healthcare Framework (OHF). From a GPS in a car CAN bus, Device Kit has interfaced it all. Join us for this tutorial in which we unlock the secrets of Device Kit through the integration of a USB device with a temperature sensor (for input) and a pair of LEDs (for output). We will learn the ins and outs of the three basic layers of the Device Kit:

- Connections
- Transports
- Devices

Discussion will center on building the Device Kit Markup Language (DKML) files that drive the Device Kit's code generation tools. We also outline how to use and test the generated code.

Participants will leave this session with:

- A clear understanding of the 3 basic layers of Device Kit
- A USB Temp/LED Device with specification
- A basic knowledge of Device Kit Markup Language
- DKML files for the Temp/LED Device
- The connection, transport, and device software for the Temp/LED device
- Simple tests for each layer
- A sample application that uses all of the code to interact with the Device

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|--|---------------------|--------------------|----------------------------|
| Patrick Dempsey | pd@bandxi.com | Vice President | Band XI International, LLC |
| Patrick Dempsey writes Java software for embedded platforms at Band XI International. He specializes in platform integration and does much of his programming utilizing the OSGi framework with Service Activator Toolkit and Device Kit. Once upon a time Patrick was a member of the Embedded Java Enablement Team (eJET) in IBM's Pervasive Computing Group. That time, all five years of it, has come and gone leaving only memories of RFID and Telematics and a much better understanding of OSGi, JAVA, embedded C, and all manners of hardware devices. Even before that he earned a BS in Electrical Engineering and a BS and MS in Computer Engineering from North Carolina State University. | | | |
| Brett Hackleman | bh@bandxi.com | Software Developer | Band XI International, LLC |
| Brett Hackleman is an agile/XP software developer with Band XI International. In his past life he was a member of the Embedded Java Enablement Team (eJET) in IBM's Pervasive Computing Group, where he worked for 6 years in the Telematics and RFID domains. Before that, Brett was happily employed by Object Technology International, Inc. He holds a BS in Computer Engineering (NC State University) and works to support his flying and snowboarding addictions. | | | |
| John Cunningham | jc@bandxi.com | President | Band XI International, LLC |
| John Cunningham leads Band XI International, a small software and services company started in 2005 that builds everything using Eclipse tooling and OSGi service-oriented bundle architectures. Although most of his work today is done in Java (and some Ruby), he really learned the most while working in LISP and Smalltalk. Mr. Cunningham has been building and managing software for 20 years in a wide variety of domains as a consultant and line manager. He has worked for Andersen Consulting (Accenture), Computer Sciences Corporation (CSC), Travelers Insurance (Citigroup), Object Technology International (OTI), and IBM. Mr. Cunningham holds the following degrees: BS in Mechanical Engineering (Columbia University), MS in Mechanical Engineering (University of Massachusetts/Amherst) and an MBA in Finance (University of Connecticut). | | | |
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| A software developer and consultant working with Eclipse technologies. | | | |

Comments

Good tutorial. Very nice explained. Some examples already running can be available next time. Excellent content.

Great presentation.

Great simple example of device kit. Thanks.

Very interesting.