NEDERLANDSE JAVA USER GROUP

Is That The Enterprise In Your Pocket?

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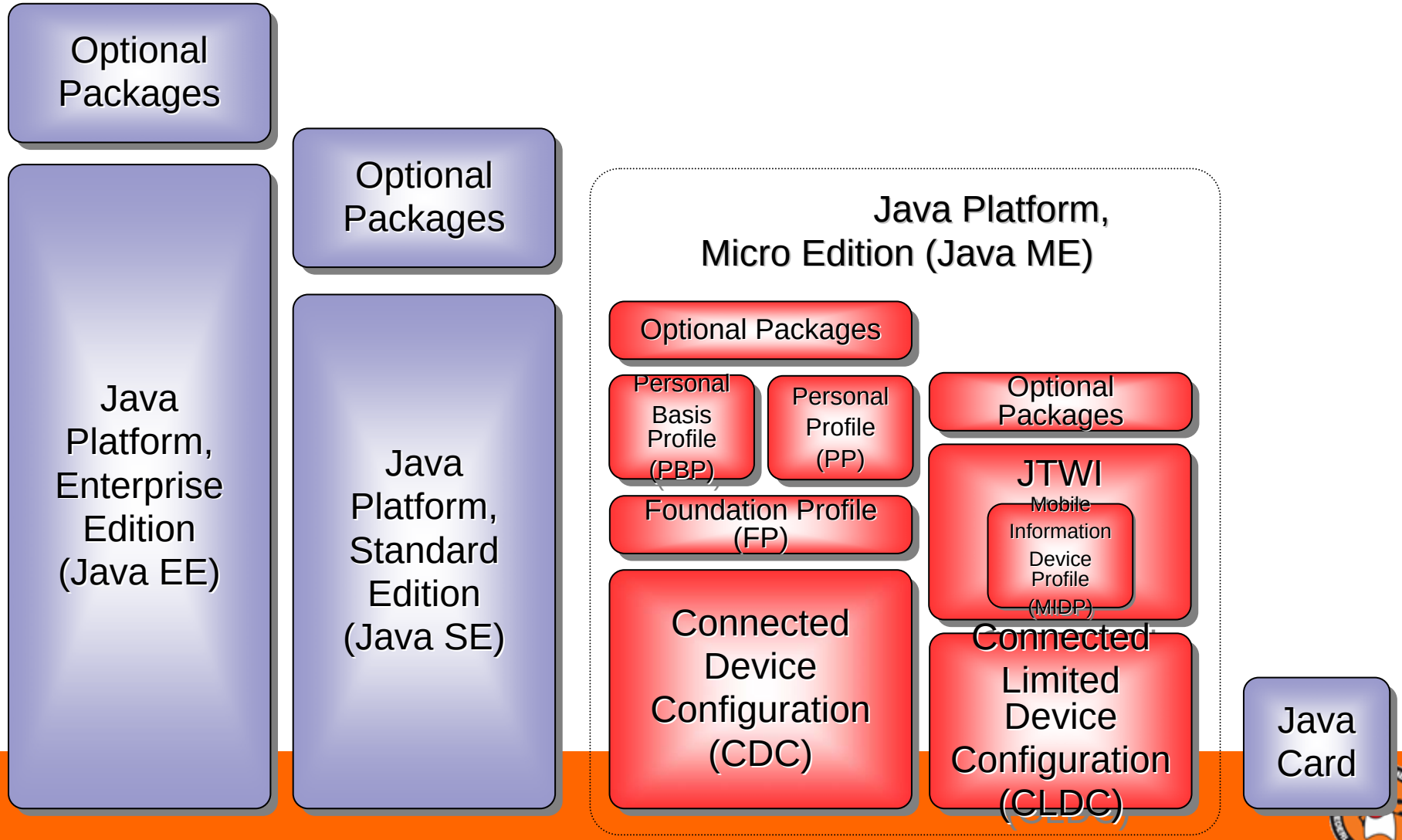
Agenda

- Java ME Introduction (5 Mins)
- NetBeans Mobility – a complete Java ME IDE (5 Mins)
- Tutorial (35 Mins)
- Q/A (5 Mins)

Java ME Brief Introduction

- A Java platform for consumer and embedded devices
- Defines configurations, profiles and optional packages
- Mobile phones usually use CLDC configuration and MIDP platform

Java ME Brief Introduction



Java ME Market Growth

- Java ME technology spreading quickly
  - 1.2B Java powered handsets, more than 1200 models
  - Another 800M expected in 2006
- 149 operators with Java Services (Nokia 2005)
- New areas are being deployed
  - Smart phones
  - Home entertainment
  - High end devices like printers, etc.

Customer Pain Points:

- Increasing Developer Productivity
- Decreasing Complexity
- Enabling Interoperability
  - 44% of mobile devs target 11+ devices for each app
- Maintaining Costs

NetBeans Mobility – Overview

- Complete and feature rich solution for Java ME application development
- Rich set of examples
- One-step install (includes Wireless Toolkit)
- Uses NetBeans release schedule
- Free
- Open Source
- 500,000+ cumulative downloads
- http://mobility.netbeans.org

NetBeans Mobility 5.0 Features

- Projects built using Apache Ant
  - Project can be built outside IDE
- Emulator support
  - Sun Wireless Toolkit included
  - Seamlessly integrates with 3rd party emulators (Nokia, SonyEricsson, Siemens, Sprint, etc.)
- MIDP localization support
- OTA testing
- Includes ProGuard

Visual Mobile Designer

- Flow editor
  - Design your application using a drag & drop visual tool
- Screen editor
  - Visually edit the individual screens of the application
- Source editor
  - Add/Edit application busines logic
- Custom components
  - Splash screen, wait screen, table item
- Generates compact code using standard patterns and practices for MIDP applications

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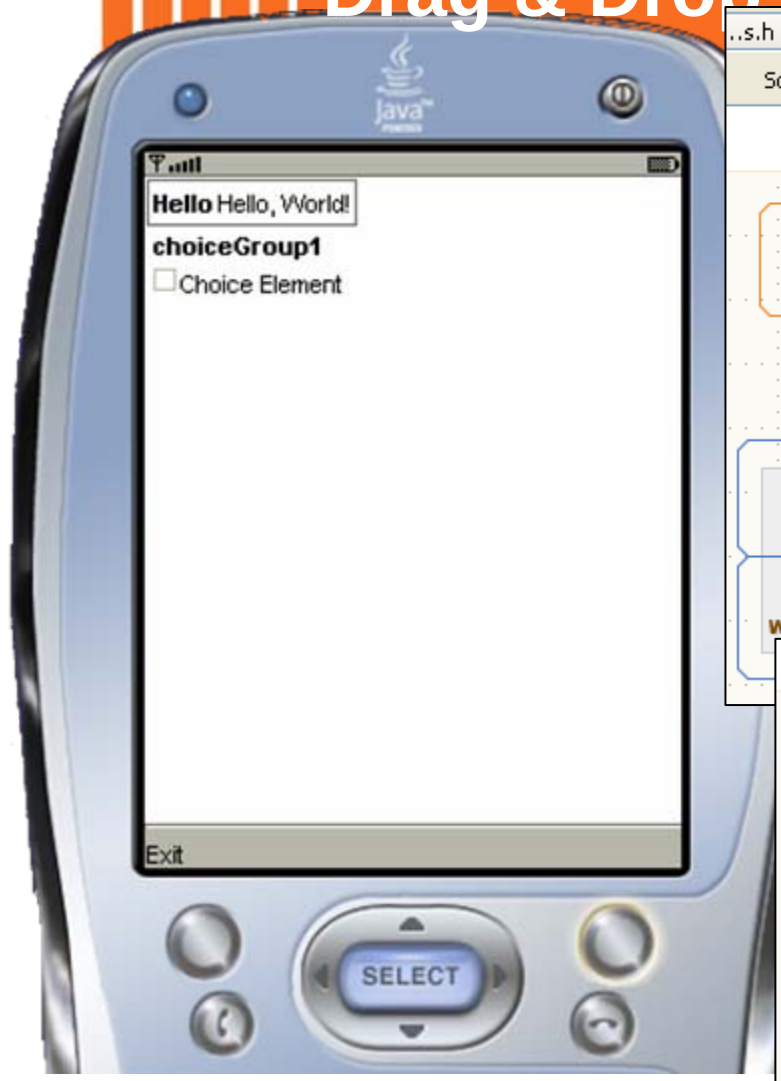
Drag & Drop w/ Visual Mobile Designer



..s.h | main.c | HelloMidlet | HelloMidlet

Source | Screen Design | Flow Design

Flow Designer: MIDP-2.0

Exit Point
Start Point
Mobile Device
helloForm [Form]
Exit
Failure
Success
waitScreen1 [WaitScreen]
alert1 [Alert]
Dismiss

Palette
Screens
Alert
Form
List
TextBox
SplashScreen
WaitScreen
Commands
Back Command
Cancel Command
Exit Command
Help Command
Item Command
Ok Command
Screen Command

Screen Designer: helloForm [Form]

Device Screen

Hello
Hello, World!
choiceGroup1
Choice Element

Assigned Commands

exitCommand Edit
exit MIDlet

Assigned Item Commands

No command assigned

Wireless Connection Solutions

SOAP

Java ME Web Services enabled phone (JSR 172)

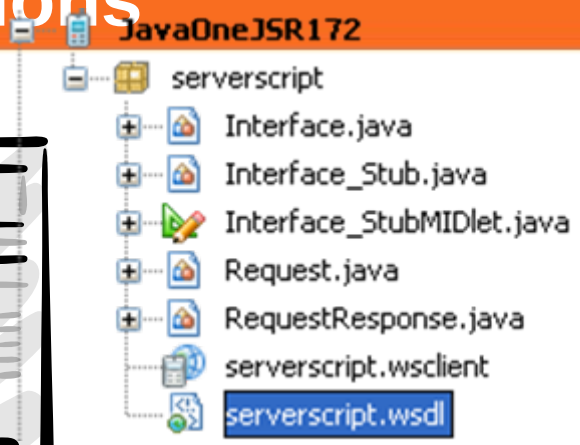
Web Service

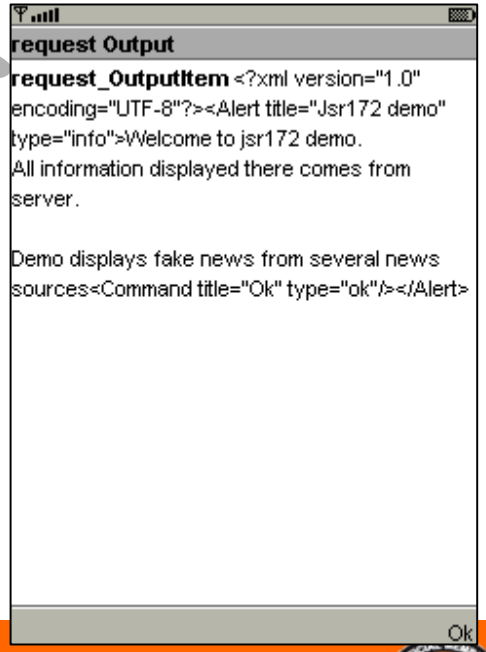
HTTP

SOAP

Phone without Java ME Web Services

Wireless Client to Web Application Middleware





Application Porting Features

- Helps with porting of applications on real devices
  - Devices exist in many variations – screen size, multimedia with different codecs support
- Application configuration
  - Every configuration represents one jar and jad file
  - Settings can be modified for each configuration
- Commenting preprocessor
  - Comments out non-active blocks
  - Integrated with editor, highlighting and code completion
- Build all configurations in one step

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Application Porting

- MobileApplication7
  - build
  - dist
    - K800
    - Nokia
    - NokiaS40
      - MobileApplication7.jar
      - MobileApplication7.jad
    - NokiaS60
      - MobileApplication7.jar
      - MobileApplication7.jad
  - nbproject
  - resources
    - 128x128
      - hedgehog.png
      - rabbit.png
    - all
  - src
  - build.xml

Project Configuration: NokiaS40 | Manage Configurations...

DefaultConfiguration
NokiaS40
Add Configuration...

Category:
- General
- Platform
- Abilities
- Application Descriptor
  - Attributes
  - MIDlets
  - Push Registry
  - API Permissions
- Build
  - Sources Filtering
  - Compiling
  - Libraries & Resources

Use Values from "DefaultConfiguration"

Bundled Libraries and Resources:
- C:\projects\MobileApplication7\resources\128x128
- NetBeans MIDP Components

Add Project... | Add Library... | Add Jar/Zip...

Add Configuration

Use Configuration Template: Sony_Ericsson_K800i_template | Delete...

New Configuration Name: K800

OK | Cancel | Help

Nokia

.h | CONATypeDefinitions.h | main.c

Source

Available Items
- Nokia — Project Configuration
- NokiaS40 — Project Configuration
- NokiaS60 — Project Configuration

```
StringItem("Hello", "Hello, World!");
ode here
//#ifdef Nokia
        helloStringItem = new StringItem("Hello", "Hello, Nokia!");
//#elifdef K800
//#        helloStringItem = new StringItem("Hello", "Hello, K800!");
//#endif
```

Tutorial

- Extending the Enterprise
  - Mobile Client to Web Application Wizard
  - Visual Mobile Designer
  - Emulator support
  - Tools for solving device fragmentation issues
- Try it yourself!
  - http://www.netbeans.org/kb/50/mobility-monitoring-demo.html

Summary

- NetBeans Mobility is a complete solution for mobile application development and deployment
- Supports broad set of emulators and devices
- Features for both power users and beginners
- Questions, Requirements, Ideas? - send comments to nbusers@netbeans.org

Questions & Answers

Brian Leonard

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