Reach the Next Billion with Engaging Apps: Full Touch for Java ME Developers

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Senior Product Manager, Series 40 Developer Product (Java)
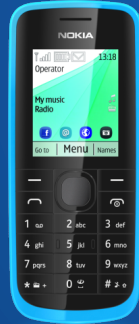
Oct 2012

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What is Series 40?

Java ME powers Series 40 – Nokia Platform which powers Asha and wide range of phones
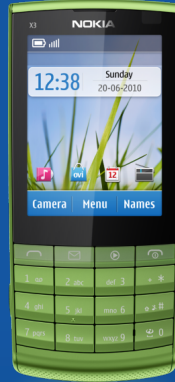
675 million Series 40 phones in active use

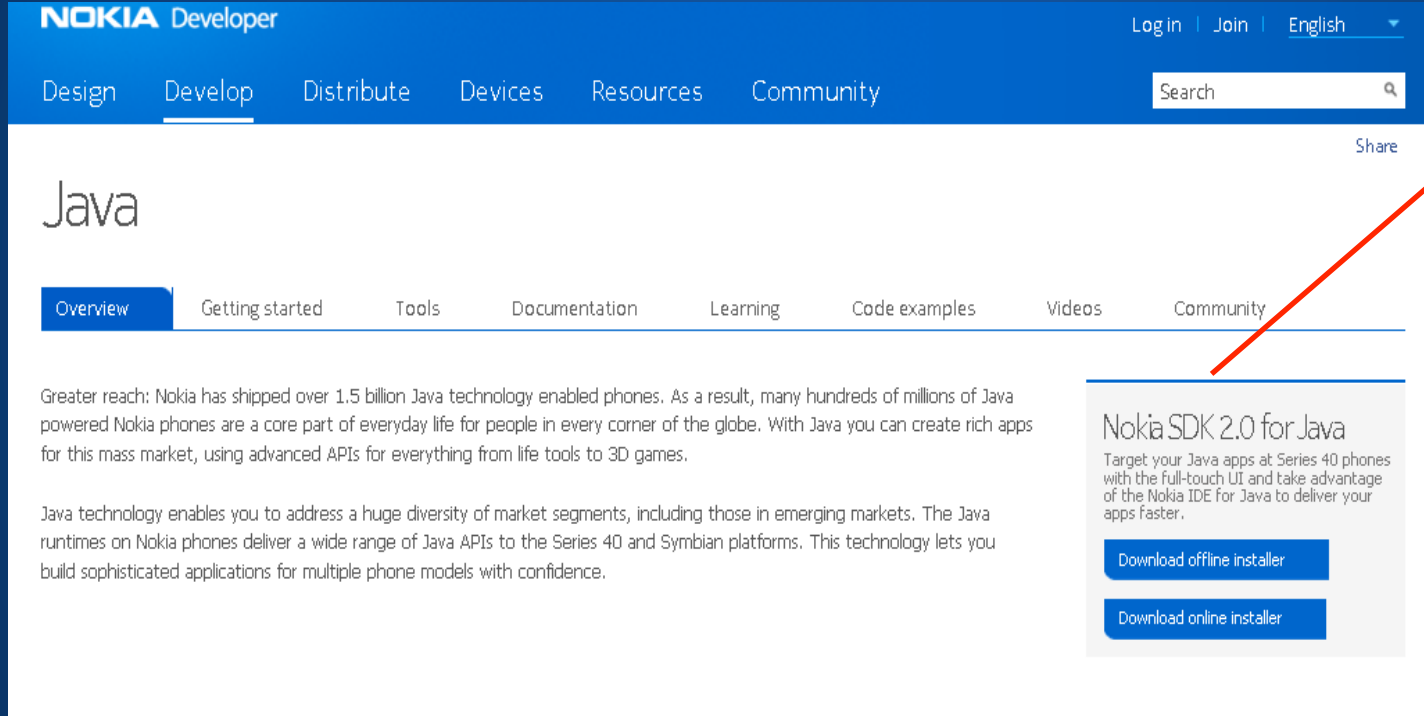5th Ed., FP1   6th Ed., Lite   6th Ed.   6th Ed., FP1   1.0.0   1.0   2.0

Contents

- Introduction
  - Nokia SDK 2.0 for Java
- New features for developers
  - New APIs
  - Productivity Tools
- Publishing

Java ME Offering in Series 40

Download the SDK

http://www.developer.nokia.com/Develop/Java/

Java ME Compliant with Complimentary Nokia API Offering

MSA Subset		Nokia API
JSR 226 (Vector Graphics)	JSR 118 (MIDP 2.1)	Nokia UI API 1.6
JSR 205 (Messaging)	JSR 139 (CLDC 1.1)	Nokia Gesture API
JSR 184 (3D Graphics)	JSR 256 (Mobile Sensor API)	Nokia Frame Animator API
JSR 135 (Mobile Media)	JSR 234 (Multimedia Supplements)	In-App Purchase API
JSR 82 (Bluetooth)	JSR 211 (Content Handler)	
JSR 75 (File and PIM)	JSR 179 (Location) + Extension for Cell ID Based Positioning	
JSR 177 (Security and Trust)	JSR 172 (Web Services)	

Nokia SDK 2.0 for Java - What's New?

Full Touch UI

- Screen
  - 240 x 400 px
  - 3:5 aspect ratio
- New
  - Action buttons
  - Category bar
  - Back button
- Nokia UI API – Providing access to the Native UI components

View title

Status bar

Header bar

Action button 1

Action button 2 (options)

Main content area

Navigation bar

Back button

Category bar

dialler

123456459

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Multipoint Touch

- Multipoint Touch
    - Tracks multiple touch points
        - But: use Gesture API if only interested in pinch
    - Each associated with unique ID, x, y and state
    - Call-back for touch changes, but status available any time
    - Use in: `Canvas-`/`CustomItem`-based classes

Touchpoints: 2
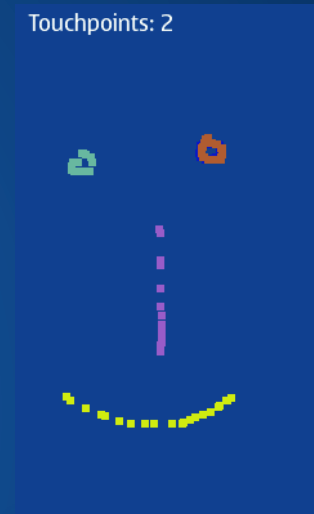
Sensors

- JSR 256 Sensor API with Sensor Simulation Supported
- Currently supported
  - Acceleration: –2g .. +2g, x / y / z axis
  - Double Tap: 1 .. 63, phone sides
  - Orientation: 0 .. 6, phone orientation
  - Battery Charge: 0 .. 100, charge percentage
  - Network Field Intensity: 0 .. 100, signal strength
  - Charger State: 0 .. 1, charger connected
- Modes
  - Synchronous
    - Poll sensor
    - Example: accelerometer in game loop
  - Asynchronous
    - `DataListener` callbacks
    - Example: phone charger plugged in
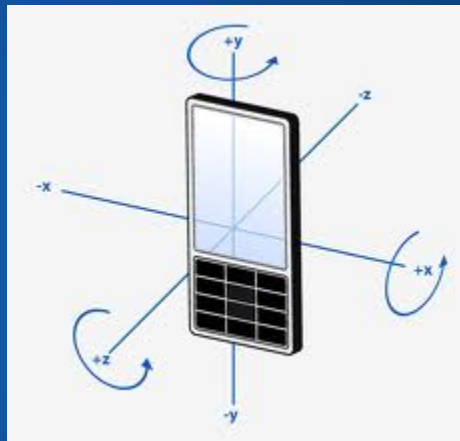
What's New?

New API's

- Full Touch API
- Virtual Keyboard
- Multipoint Touch
- Gesture
- Sensor and Orientation

Productivity Tools

- Nokia IDE for Java ME (Eclipse)
- Nokia SDK 2.0 for Java
- Lightweight User Interface Toolkit (LWUIT)
- Maps API for Java ME

Documentation

- Series 40 Porting Library for Android Developers

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Nokia IDE for Java ME

(NetBeans is supported as well)

Integrated SDK + Toolchain

JAD Editor

App Templates

Device SDK Manager

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Device SDK Manager for Easy Tool Selection

- Device SDK Manager enables easy selection & ONE-CLICK install of all relevant Nokia tools

- Developers can select tools quickly based on -
  - Phone Models
  - Form Factor
  - Layout
  - Display Size

- Phone models supported by particular tool set is displayed
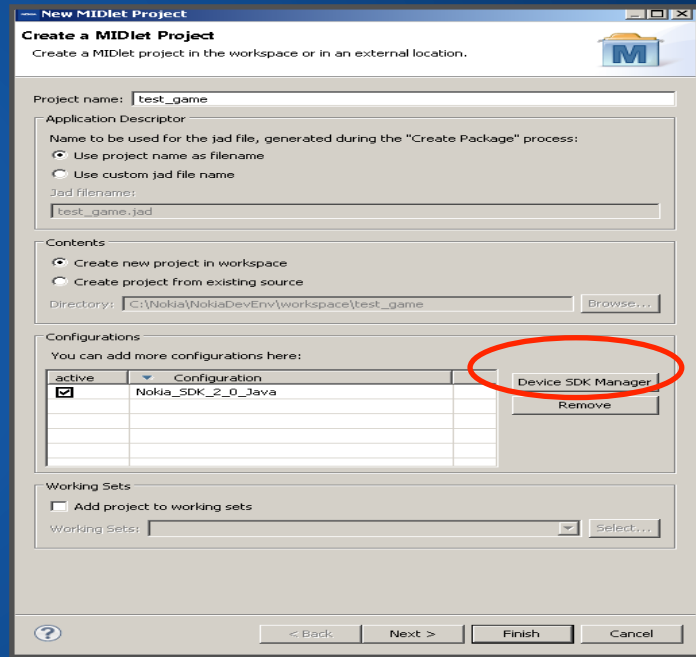
Invoking Device SDK Manager

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Device SDK Manager

Phone Model based Selection

Layout & form factor based selection

Display Size based selection

Nokia Specific Templates for In-App Purchase for easy coding

New Java ME MIDlet

MIDlet Templates

Select one of the available templates to generate a fully functioning MIDlet.

☑ Create MIDlet using a template.

Available Templates:
- Nokia In-app MIDlet Template
- Splash MIDlet Template
- Display Manager Template
- Image Downloader Template
- SMS Server Template

Description:

This template creates a In-app MIDlet project with a customized resource folders and files. In-app MIDlet has basic In-app capabilities. Required files - IAP_VATIANTID.TXT and TEST_MODE.TXT - are being created under res folder of project. DRM Resource Id folder creation is subject to user inputs.

Required Permissions:
- None

[?]   [< Back]   [Next >]   [Finish]   [Cancel]

---

test_game | battle_bird.java

```java
import javax.microedition.lcdui.Command;

/**
 * MIDlet provides the basic code and the usability of In-app Nokia
 * feature. It is a reference code which guides you how to write and
 * integrate it with your MIDlet. Your application may need to modify
 * the code based on your application requirements.
 *
 * If you are using production In-app server, please proxy setting
 * of Nokia SDK emulator from the SDK Preferences.
 *
 */
public class battle_bird extends MIDlet implements CommandListener,
                IAPClientPaymentListener {

    Form mainScreen;
    private Command exitCommand;
    private Display display;
    private IAPClientPaymentManager    p;

    public battle_bird() {
        display = Display.getDisplay(this);
        exitCommand = new Command("Exit", 7, 0);
    }

    //--------------------------------------------
    // Life cycle methods

    /*
     * (non-Javadoc)
     * @see javax.microedition.midlet.MIDlet#startApp()
     */
    public void startApp() {
        mainScreen = new Form("In-app MIDlet Template");
        mainScreen.append("This is In-app MIDlet Template. In-app specific implementation is needed.");
```
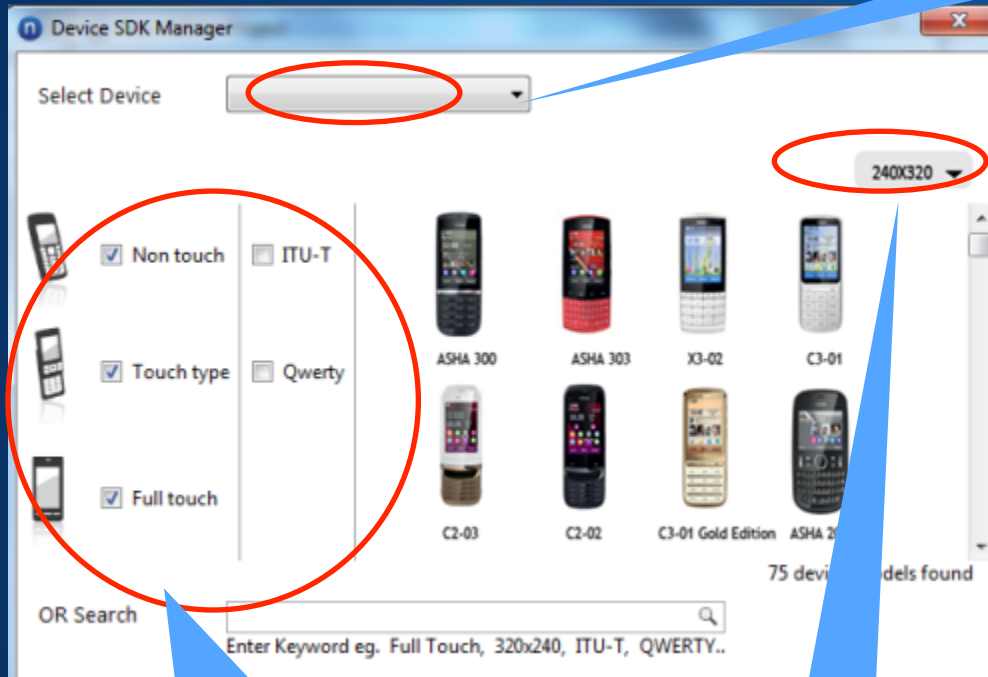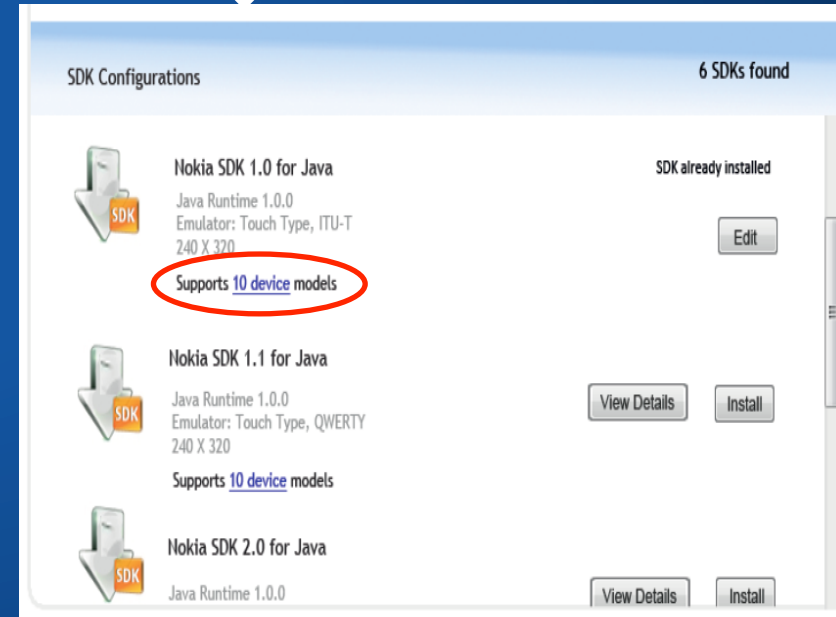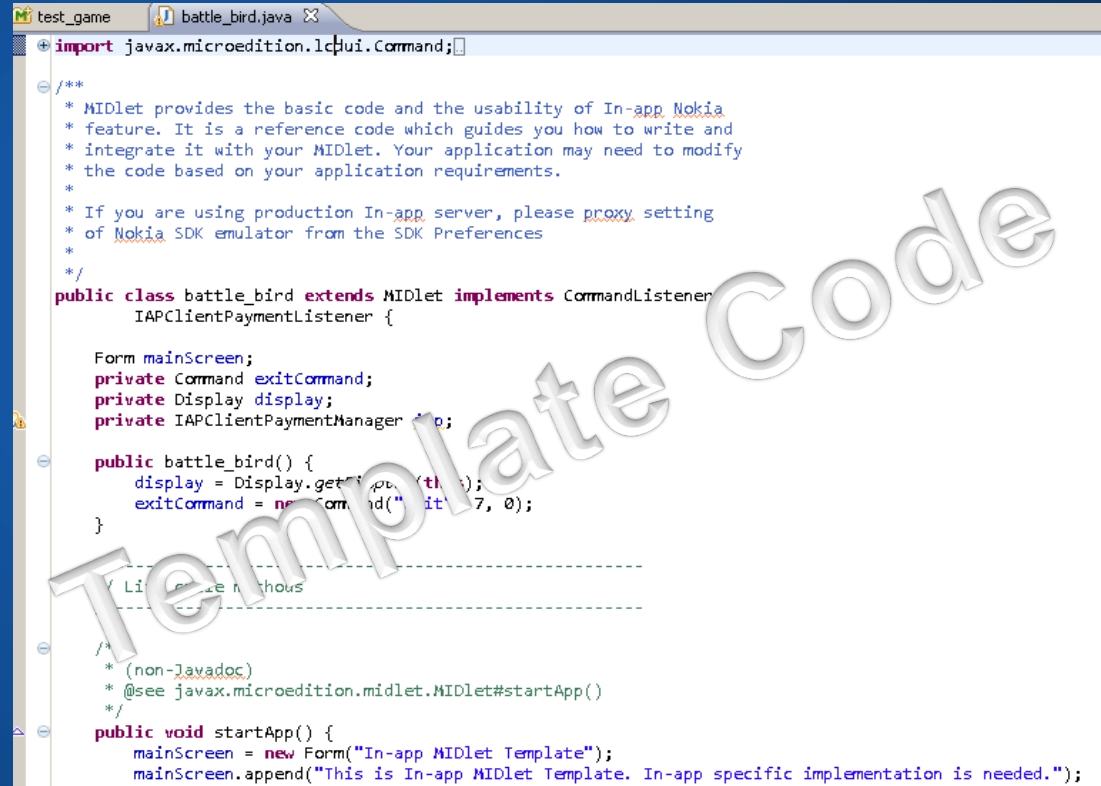
Template Code

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Easy coding using Nokia IDE for Java

- Automatic Discovery & Integration of all Nokia SDK's to the Nokia IDE for Java
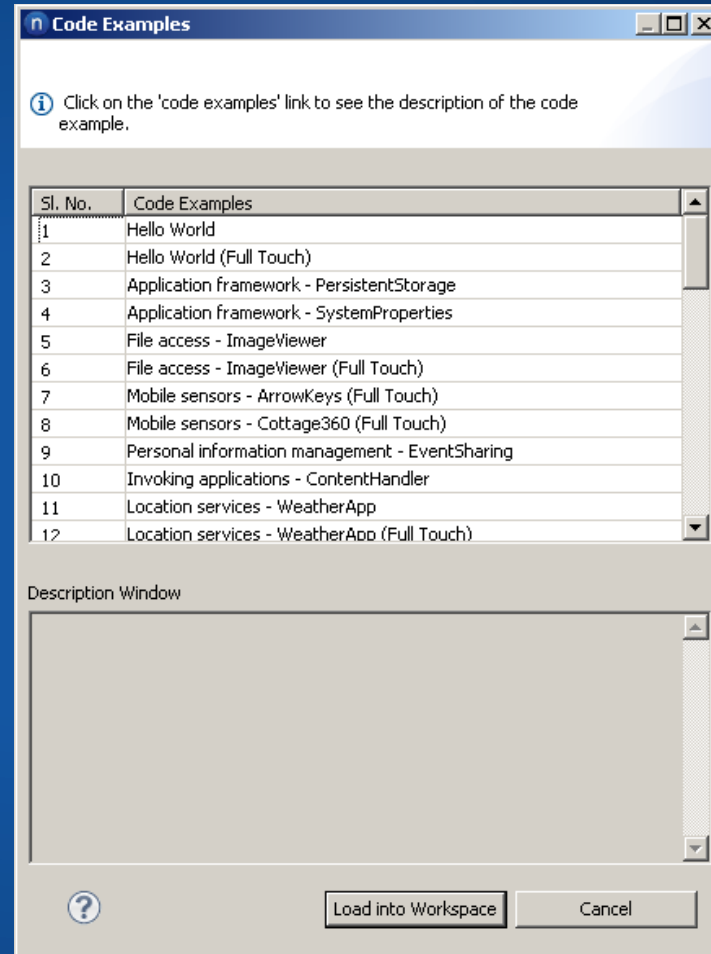
- Auto-population of Nokia specific JAD attributes like Nokia_MIDlet_Close_GPRS_ Context & many more
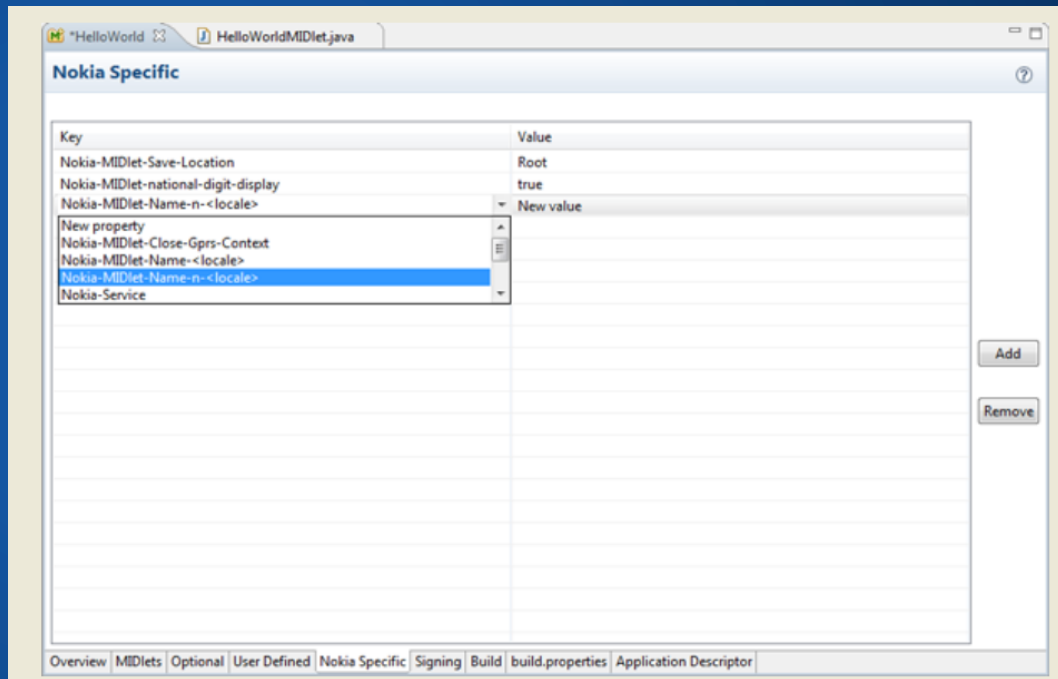
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Code Examples

- Nokia IDE
  - Nokia Hub → Nokia Series 40 Code Examples
- Emulator
  - Help → MIDlet Samples

Code Examples

Click on the 'code examples' link to see the description of the code example.

Sl. No.	Code Examples
1	Hello World
2	Hello World (Full Touch)
3	Application framework - PersistentStorage
4	Application framework - SystemProperties
5	File access - ImageViewer
6	File access - ImageViewer (Full Touch)
7	Mobile sensors - ArrowKeys (Full Touch)
8	Mobile sensors - Cottage360 (Full Touch)
9	Personal information management - EventSharing
10	Invoking applications - ContentHandler
11	Location services - WeatherApp
12	Location services - WeatherApp (Full Touch)

Description Window

Load into Workspace   Cancel

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Nokia SDK 2.0 for Java brings

✓ Full Touch UI emulation

✓ Sensor Emulation

✓ Dynamic Location Emulation (Nokia Maps)

✓ Link to Nokia publish and Remote Device Access from SDK emulator

✓ Full integration with Netbeans
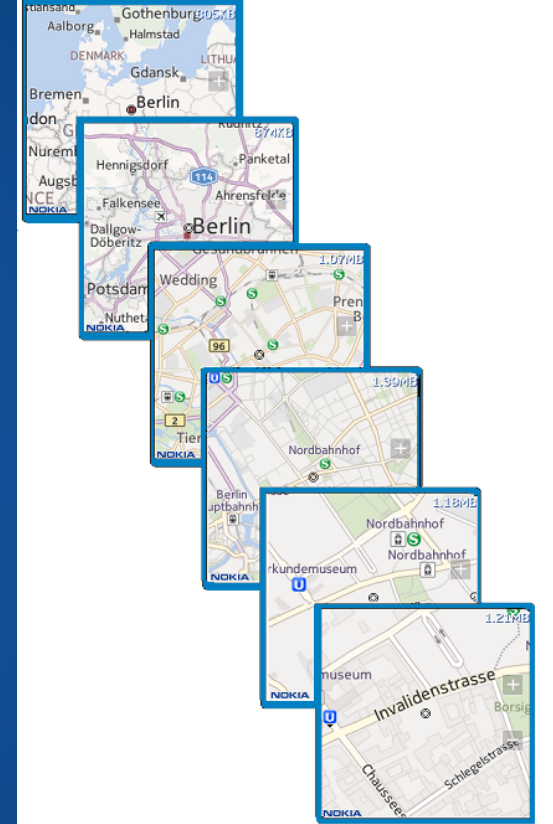
✓ On Device Debugging support

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Nokia Maps API

Provides developers access to mobile-optimized Nokia Maps for Series 40

Features for Developers
- Multiple map types – conventional street map, satellite and terrain
- Touch support
- Customizable markers
- Polygons, polylines
- Overlay support
- Download indicator

http://www.developer.nokia.com/Develop/Maps/Maps_API_for_Java_ME/
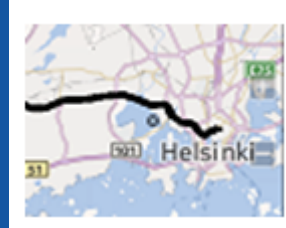
Nokia Maps API – Services Available

http://www.developer.nokia.com/Develop/Maps/Maps_API_for_Java_ME/

Supports local search and places look-up by category

Geo-coding & Reverse Geo-coding

Routing between any start and end point, taking into consideration transport and traffic preferences.

Location Sharing into your app. Lets users send images or URL in SMS Message

Integrated KML to show the content on the map without having to recreate it manually

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Pricing Models for Nokia Maps APIs

Section	Standard	Premium
Product Offering		
NLP Standard API Access	✓	✓
Throughput	**Maps – Unlimited** **Routes – 20,000 trans/day** **Search – 20,000 trans/day**	**Maps – Unlimited** **Routes – Up to 10 trans/sec** **Search – Up to 10 trans/sec**
Service Level	**Targeted 99.9%**	**Guaranteed 99.9%**
Support	X	✓
Pricing Model		
Transaction Bundles	**Free usage within following limits:** **Maps 1,000,000 per month** **Routes 500,000 per month** **Search 500,000 per month**	**No limits , bundles valid for 24 months:** **1 million - €1,750** **5 million - €7,500** **25 million - €31,250** **50 million - €50,000** **100 million - €75,000** **200 million - €100,000**
Excess Transaction Fee	€0.0050	€0.0025

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Developer Offering Overview

Section	Standard	Premium
Product Offering		
Nokia Developer Site API Access	✓	✓
Support and Service Level Agreement	X	✓
Pricing Model		
Take It or Leave It Terms	✓	✓
Transactions Fees	✓	✓
Terms & Conditions		
Platform Registration	✓	✓
Nokia Branding	✓	✓
Advertising Required	✓	✓ / Opt Out
Commercial Applications	✓	✓
Monetization Allowed	✓	✓
Unlimited Transactions & Requests	X	SLA

Using Maps API

1. Register as a developer free at www.developer.nokia.com
2. Obtain a <u>free</u> set of authentication credentials (**App Id** and **Token**) from:
   1. https://api.developer.nokia.com/ovi-api/ui/registration
   2. A unique **App ID** and **Token**, are required for each application
3. Create the app with Maps API. Add the Maps plug-in binary as a reference to the project.
4. Test & Publish app
5. In case the quota is exceeded, Nokia would contact you with further details!
6. Write in to locationapi@nokia.com if you would directly like to go for Premium Model

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LWUIT

- Stylable UI Components
  - From Oracle: lwuit.java.net
- Optimized for Nokia
  - Native look & feel
  - Uses Nokia APIs for functionality
  - Better performance

- LWUIT Library for Series 40 Apps
  - Includes Series 40 themes, text editor & gestures for platform look and feel
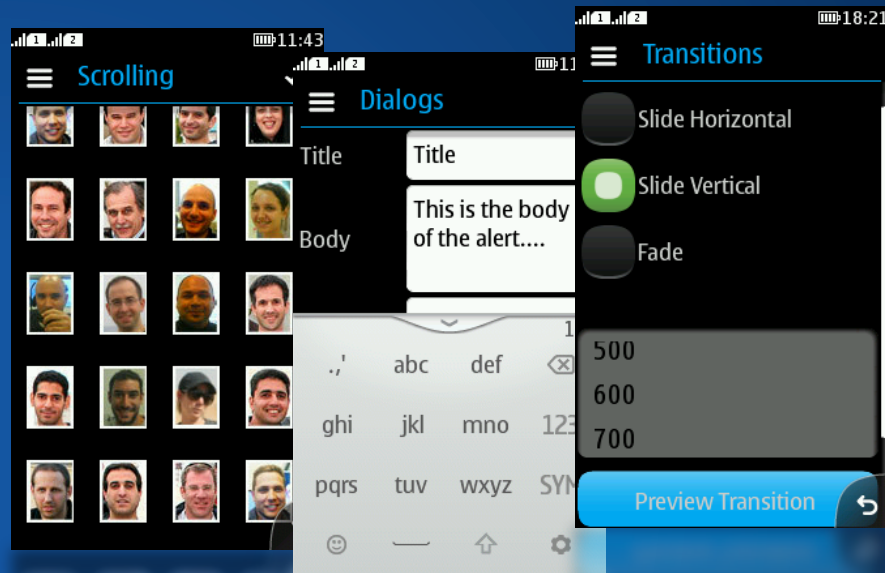
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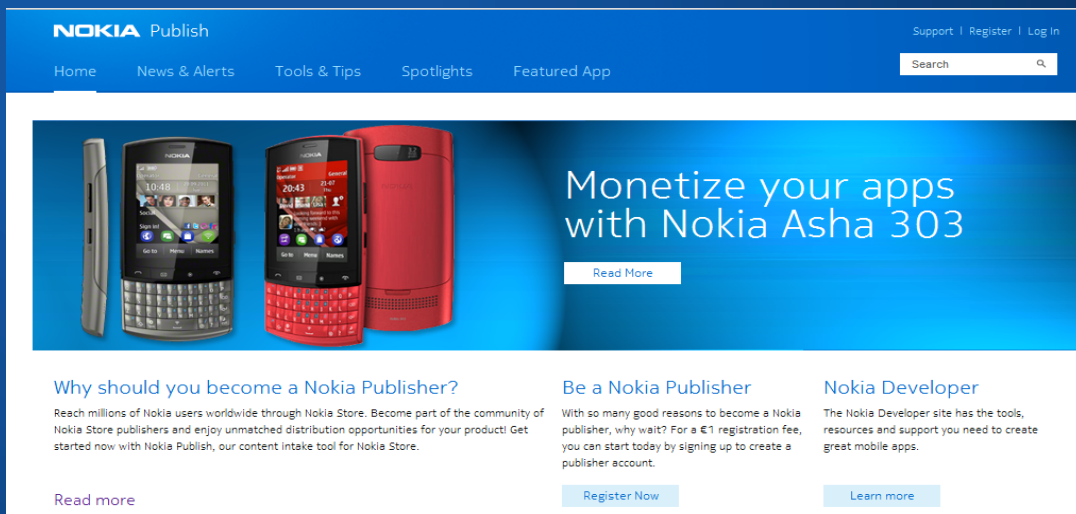
New opportunities for Android developers

- Short learning curve
  - Many Android developers have prior Java experience
  - Android and Series 40 have similar development tools
  - Possibility to reuse business logic

- **Series 40 Porting Guide** helps Android developers migrate their apps to Series 40
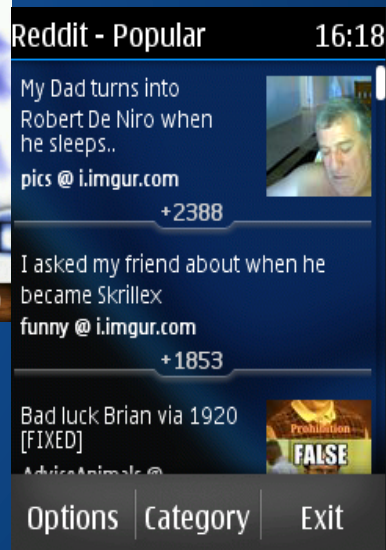
Publish & Market your App

- Nokia Publish – One time1 Euro registration fee to sign up
- Free 24 hour support / 7 days a week (developer.support@nokia.com)
- Standard 70/30% Revenue Sharing

Publishing @ Nokia Store

1. Register as a Publisher (http://info.publish.nokia.com/ with 1 EUR registration fee

2. Add, edit, and remove content for Nokia Store

3. Check the status of our Quality Assurance (QA) review

4. Use Online Marketing Tool to create Custom Banners, Spotlight promotions

5. Developer Dashboard to review daily download statistics and estimated revenue reports

6. Manage your publisher account and multiple user access

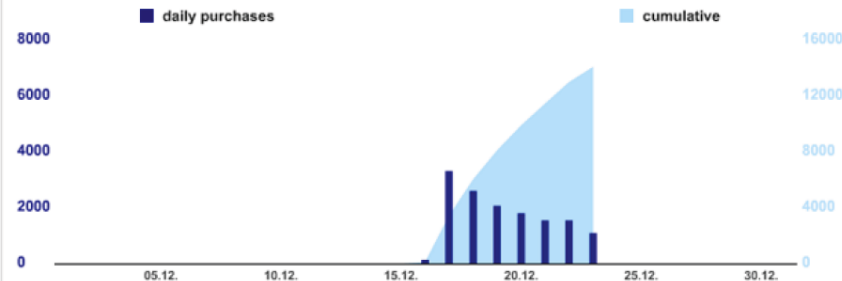Please note- Nokia provides **Java Verified** signing for FREE.

Dashboard

My app Report for Ovi Store   ← More reports

December 2010

Key metrics
Purchases: 14086
Estimated revenue: 13073.63 €

■ daily purchases   ■ cumulative

Countries		Purchases	Estimated revenue	Devices		
#1	United Kingdom	3314	2920.89 €	#1 Nokia N8-00		98.3 %
#2	Finland	2076	2099.60 €	#2 Nokia E7-00		1.0 %
#3	Germany	896	907.83 €	#3 Nokia C7-00		0.4 %
#4	Russian Federation	813	803.96 €	#4 Nokia C6-01		0.3 %
#5	Australia	888	712.36 €	#5 Nokia N95		0.0 %
#6	France	670	683.30 €	#6 Unresolved		0.0 %
#7	Italy	459	486.86 €	#7 Nokia X6		0.0 %

MyCo Ltd. Summary Report for Ovi Store

Monthly reports   Export to CSV: **Estimated revenue (Paid content)**

Paid content

Key metrics

Published paid items:	7
Purchases:	368444
Estimated revenue:	385996.39 €

	Purchases		Estimated Revenue	
Countries	Last 7 days	All time	Last 7 days	All time
#1 Australia	692	28424	585.51 €	27071.51 €
#2 Russian Federation	395	23722	423.78 €	27100.04 €
#3 United Kingdom	295	62491	262.10 €	69618.34 €

Show more

	Purchases		Estimated Revenue	
Content Items	Last 7 days	All time	Last 7 days	All time
#1 MyAppPaidSymbian	1740	161586	1522.05 €	189515.39 €
#2 MyAppPaidJava	1550	57627	1155.88 €	49930.30 €

Show more

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Demo

Key Takeaways

- There is a huge demand for apps and its increasing for Series 40

- Series 40 Java Developer Offering is exciting in terms of API's, Libraries & Tools

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Nokia Sessions

	Session Name	When?	Where?
5	BOF4747 - Look Again: Java ME's New Horizons of User Experience, Service Model, and Internet Innovation	Monday, Oct 1, 5:30 PM - 6:15 PM	Hotel Nikko - Nikko Ballroom II/III
6	BOF6556 - Mobile Java App Innovation in Nigeria Paul Houghton	Monday, Oct 1, 8:30 PM - 9:15 PM	Hotel Nikko - Nikko Ballroom II/III
7	CON6494 - Extreme Mobile Java Performance Tuning, User Experience, and Architecture Patterns - Paul Houghton	Wednesday, Oct 3, 11:30 AM - 12:30 PM	Hotel Nikko - Monterey I/II

Thank you

Want to learn more?

www.developer.nokia.com

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Resources

- Overview
  - www.developer.nokia.com/Develop/Java/Getting_started/
- Downloads
  - SDK: www.developer.nokia.com/Develop/Java/
- Guides
  - Design & User Experience
  - Porting from Android
  - www.developer.nokia.com/Develop/Java/Documentation/
  - Training Videos: www.developer.nokia.com/Develop/Java/Learning/
  - Code Examples: www.developer.nokia.com/Develop/Java/Code_examples/