Integrating J2ME Polish into the MTJ Project
Motivation: Fragmentation

- Mobile device fragmentation limits mobile application adoption and thereby Carriers’ ARPU growth
  - Different hardware
  - Different API support
  - Different standards: MIDP, DoJa, BlackBerry, etc.
  - Different interpretations of standards
  - Device bugs
Motivation: Design

- The mobile Java standard only allows limited design of applications, unless every detail is drawn by the application itself
  - Standard implementations do not allow to influence the CI and look and feel of the application
  - Adapting designs to different environments or customers is difficult
  - Design changes require changing the source code of applications

```java
public void paint( Graphics g ) {
    Font font = Font.getDefaultFont();
    g.setFont( font );
    g.setColor( 0x000000 );
    g.drawText( “Hello World”, x, y, Graphics.LEFT | Graphics.TOP );
    g.setStroke( Graphics.SOLID );
    g.setColor( 0xFF0000 );
    g.drawLine( x, y + font.getHeight(), x + 200, y + font.getFontHeight() );
}
```
J2ME Polish

- J2ME Polish...
  - overcomes mobile device fragmentation,
  - “polishes” the look and feel of mobile applications
  - eases the development of mobile applications

- J2ME Polish contains a flexible and powerful framework for adapting and designing mobile applications

- Proven Solution:
  - > 120,000 downloads
  - “Pro J2ME Polish” book published by Apress

www.j2mepolish.org
Selected Features
- Device Database
- Create device specific application versions out of a single source code project
- Resource Assembling: select device and locale specific resources, customize applications easily
- Localization: static and dynamic localization
- UI: design applications outside of the source code using simple CSS textfiles - with effects, advanced screens and items, bitmap fonts, etc.
- Serialization & Persistence framework
- Java 5 syntax support for J2ME
- Eclipse integration
Designing Applications

- Design is specified outside of the application’s source code
- Customize the application just by modifying CSS
  - Example: title { font-color: green; }

![Images of Nokia phones with J2ME Polish applications]
Customers

- More than 100 commercial licensees from around the world including:

  - Nokia
  - Vodafone
  - Motorola
  - Sagem Communication
  - Converse
  - Star Finanz
  - Jentro
  - Wayfinder
  - SPN
  - Tempos 21
  - Wave Market
  - Bamboo
  - wcities
  - Cobramobile
  - Lancaster University
Business Model

- J2ME Polish is dual licensed
  - Open Source GPL license
  - Proprietary commercial licenses
- J2ME Polish can be used commercially under the GPL when only the build framework is used (i.e. preprocessing, resource assembling)
- When J2ME Polish client classes are included into the built applications, the user needs to obtain a commercial license (or publish the application under the GPL)
- Client classes can be used directly (e.g. de.enough.polish.util.HashMap) or indirectly (e.g. when using the J2ME Polish UI framework)
Business Model

- Providing training and support
- J2ME Polish makes Enough Software known as a specialist for mobile projects and helps to sell services like
  - development
  - porting
  - optimizations
  - GUI improvements

**Summary:** Interests of Enough Software
- sell J2ME Polish licenses
- use J2ME Polish for advertising
Proposal

- Merge J2ME Polish build features into the MTJ under the EPL license
  - device database
  - device fragmentation
  - localization
  - possibly emulator invocation and debugging
- Cooperation on UI builder
- Working on use cases and implementations
- Providing Resources
  - 1 fulltime resource
  - at least 1 student working on his bachelor thesis for 3 months
The J2ME Polish plugin for Eclipse eases the development of mobile applications:
- select target device from drop down menu
- debugging
- emulating
- preprocessing syntax highlighting
- preprocessing code completion
- the J2ME Polish build and emulator framework is used for building applications and launching emulators
- support of any OS: Windows, OS X, Linux
- plugin can be placed under EPL license
Eclipse Integration

- Target device is selected from drop down menu
- Syntax highlighting and marking of occurrences allow orientation in nested preprocessing code
Eclipse Integration

- Debug a project just by launching the debugger
Introduction

Business Model

Business Opportunities

Proposal
Main interests of Enough Software are:

- selling licenses
- selling services by using J2ME Polish as advertising
- becoming add-on provider for MTJ

There need to be business opportunities for providing code and resources:

- Simple integration of J2ME Polish
- Linking of the J2ME Polish MTJ Product
- Roadshow MTJ 1.0: speaker/consultant
- Official MTJ training and integration consultant
Simple integration of J2ME Polish (1/2)

- Idea
  - Some J2ME Polish enhancements like the user interface extensions cannot be released under the EPL without risking our business model; these enhancements cannot be integrated into the official MTJ product for this reason.
  - Users should be able to upgrade the basic MTJ product easily
Proposal

- Each committer can provide one MTJ extension description containing name, icon, description and update link
- Upon the first start of the MTJ, the user is asked whether he would like to install one of these upgrades - the upgrade should be possible just by selecting the appropriate checkbox and clicking “upgrade”
- The user can later onwards install upgrades in the MTJ preferences as well
- Enough Software helps to integrate this upgrade mechanism
Linking of the J2ME Polish MTJ Product

- **Idea**
  - MTJ based products of committers are linked directly on the MTJ homepage as well as the MTJ download section
  - This would make commercial variants of the MTJ more visible

- **Proposal / Background**
  - We learned from Jochen Krause, Board of Directors, that there has been a board decision allowing such links as long as they are directly linked to Eclipse products (rather than a company website, for example)
Idea

- Nokia will probably market the MTJ in a roadshow or on Eclipse events, when the 1.0 release is published.
- Enough Software would like to participate on such events as a speaker, thus gaining a business benefit by getting contacts as well as getting paid for the conferences.

Proposal

- Nokia organizes a roadshow to market the MTJ at least in Europe.
- Enough Software provides a speaker.
- The speaker can inform about commercial extensions such as J2ME Polish.
• **Idea**
  - The MTJ homepage should provide a contact list of consultants that help to migrate existing products to the MTJ

• **Proposal**
  - The MTJ project maintains and publishes a list of consultants that can help with the migration
  - Committers can join this list
Contact

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