

# Penlet SDK 0.9.1: Read Me First

*A Pre-Release of the Penlet SDK  
(Software Development Kit)*

**Important:**

This document describes the requirements and features of pre-release 0.9.1 of Livescribe's Penlet SDK. Please read it before downloading the Penlet SDK.



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## Penlet SDK 0.9.1

This is pre-release 0.9.1 of Livescribe's Penlet SDK (Software Development Kit), which enables third-party developers to create smartpen applications—or *penlets*—for the Pulse smartpen. Penlets that are created with this version of the SDK work with Livescribe Open Paper only.

Penlet SDK 0.9.1 fixes several issues from SDK 0.9.

The release of SDK 1.0 is scheduled for 2009 and will support the creation of penlets that use Livescribe Fixed Print paper.

## Dev Forum: Sample Code & Docs & FAQs

The Livescribe Developer Forums are the new home of the sample penlets and the latest versions of the SDK documentation. We have created a forum expressly for this purpose.

We encourage all third-party developers to participate in the Livescribe Developer Forums. Go to <http://www.livescribe.com>, click on the Developer button, and then the Forums button. Go to the forum named *Sample Code & Docs & FAQs*, which contains the following:

- **Sample Applications:** Sample penlets are no longer bundled in the SDK. You can find source code for sample applications in this forum. Livescribe will update existing samples and add new ones, so check this forum periodically.
- **Latest Version of the Documentation:** The PDF documents bundled in the Penlet SDK will also be available in this forum. Livescribe will update these documents between official releases of the SDK, so check back for the latest version.
- **FAQs:** In this forum, you will find Frequently Asked Questions (FAQs) on a variety of technical subjects related to penlet development.

## Project Compatibility with SDK 0.9

If you created penlet projects with SDK 0.9, you can use them in SDK 0.9.1. Simply perform the following change in each penlet project:

1. Locate the `.project` file in the project's root directory.
2. In the `.project` file, find the `<nature>` element and replace `com.livescribe.sdk.wizard.ProjectNature` with `com.livescribe.sdk.penletProject.PenletNature`

## Development Platforms

Penlet SDK 0.9.x supports the following development platforms:

- Windows XP SP2/SP3 and Windows Vista
- Mac OS X 10.5.x on Intel (Leopard)

New functionality in 0.9.x applies to Mac developers only. Resolved issues apply to both the Windows and Mac platforms.

## Mac Developers Should Use Eclipse

Livescribe's Eclipse feature contains plugins for penlet development in the Eclipse IDE. As of SDK 0.9, it is compatible with both Mac and Windows. Mac developers should use Eclipse and install the Eclipse feature, using the Update Manager. Use of IDEs other than Eclipse is not supported, since the command-line tools run on Windows only.

### Mac Limitations

Development on the Mac has the following limitations.

#### Conversion of Audio Files to AAC-LC

The Livescribe Resource Converter converts audio files to WAVPACK format only. For a workaround, see the `ReadMe.txt` file in the top-level of the Penlet SDK.

#### Manual Conversion of Images Required

Image files are not automatically converted to the ARW format when a penlet project is built. Developers should convert images manually, using the Resource Converter that is part of Livescribe's Eclipse feature.

### Custom ICR Resources

The Livescribe Project Creation Wizard does not allow you to generate custom lexicon and character subset resources for use by the ICR (intelligent character recognition) engine. You can still access standard system character subsets: for instance, you can select the **Alphabetic characters only** option, the **Numbers only** option, etc.

## Downloading the Penlet SDK

To download the Penlet SDK, developers must do the following:

- Register as a developer in the Livescribe Developer Program. If you have already joined the Developer Program, you need not register again.

Since you are reading this document, you have probably logged in to [www.livescribe.com](http://www.livescribe.com) already. If you do not have a Livescribe Developer account yet, create one now by doing the following:

1. Go to <http://www.livescribe.com> and click on the Developer button.
  2. On the Welcome Developers page, click the Register link.
  3. Click on Create a New Account.
  4. Enter your email address as the user name. Enter a password and then confirm the password by entering it again. Click on Add Account.
  5. Complete the Developer Registration form and click on Continue.
  6. Return to the Developer Overview page or go to the Developer Forums.
- Download the SDK from the Livescribe developer zone.

If you are already logged in to the Livescribe web site with your developer account and are currently viewing the Downloads list in the developer zone, then simply click the Pre-Release Penlet SDK link.

If you are not logged in yet:

1. Go to <http://www.livescribe.com> and click on the Developer button.
2. Click on the Log in button in the upper right-hand corner.
3. Enter your Livescribe Developer username and password, and click on the Log In button.
4. In the right-hand column, click on the Pre-Release Penlet SDK link.

5. Read the Livescribe Developer License Agreement and accept the license term by clicking on the I Agree button at the bottom.
  6. Download the zip file that contains the SDK to your computer.
- Unzip the zip file to a directory on your computer file system. Remember that directory; you will need to access it again soon.

## Software Requirements

In addition to one of the platforms listed in "Development Platforms", you must have the following software installed in order to use the Penlet SDK.

- JDK 5 or above. (The JDK is required; the JRE alone will not suffice.)

The latest version is called Java SE Development Kit 6. (The internal version number is 1.6) To download the JDK, go to <http://java.sun.com> . Click the Java SE link and then the Downloads tab. Download Java SE Development Kit (JDK) 6 Update X (where X is the latest update number).

- Eclipse 3.4 (Ganymede) is the preferred version. Eclipse 3.3 (Europa) and Eclipse 2.2 are also supported. To download, go to <http://www.eclipse.org> . Click Download Eclipse. Download Eclipse Classic or Eclipse IDE for Java Developers.

OR

NetBeans 6.1 or above. To download, go to <http://www.netbeans.org> . Click Download NetBeans IDE. Download the bundle called Java SE.

## IDE Options

The Livescribe Penlet SDK supports three IDE options:

- Eclipse with Livescribe Plugins (Mac and Windows)
- The Core Utilities With Eclipse (Windows Only)
- The Core Utilities With NetBeans IDE (Windows Only)

## Eclipse with Livescribe Plugins

This is the official development environment for Livescribe penlets. It consists of the open-source Eclipse IDE with custom plugins written by Livescribe. The plugins are packaged as an Eclipse feature. Livescribe's Eclipse feature supports both Windows and Mac.



Livescribe introduced the Eclipse feature in Penlet SDK 0.8. If you wish to continue working with projects created in earlier versions of the Penlet SDK, you can use the Livescribe plugins to convert old projects to the new project format.

The Eclipse feature is contained in a zip file. In the Penlet SDK, navigate to a path such as the following: `0.9.1\EclipseFeature\Livescribe_SDK_0_9_1.zip` (where the first directory reflects the current version number of the Penlet SDK). For instructions on installing the feature, see the `ReadMe.txt` file on the top-level of the Penlet SDK or the "Developing Livescribe Open Paper Applications" manual in the `Docs` directory.

## The Core Utilities With Eclipse (Windows Only)

The Core Utilities Using Eclipse option is intended for the experienced developer who prefers to develop smartpen applications using Eclipse, Ant tasks, and command-line development tools.

## The Core Utilities With NetBeans IDE (Windows Only)

The Core Utilities using NetBeans IDE option is intended for the experienced developer who prefers to develop smartpen applications using NetBeans IDE, Ant tasks, and command-line development tools.

## Contents of the Penlet SDK 0.9.1

The top-level directory of the SDK 0.9.1 contains a subdirectory reflecting the current version number of the Penlet SDK, such as `0.9.1`. That subdirectory contains the following:

- *CoreUtilities*

Directory subtree for developing penlets, using one of the Core Utilities options. Contains the Livescribe Smartpen API classes, Javadoc for the Livescribe Smartpen API, development tools, and project files for importing the Livescribe Smartpen API into Eclipse or NetBeans as a project. *CoreUtilities* is for Windows developers only.

If you are using Eclipse with Livescribe Plugins, you can ignore the *CoreUtilities* directory subtree.



- *Docs*

Directory subtree containing documentation for the SDK.

- *DeveloperDocs*

Documentation for third-party developers in PDF format:

- *Developing Livescribe Open Paper Applications*
    - *Livescribe Architectural Overview*
    - *User Experience Guidelines*

Javadoc for the Smartpen Java API. To launch the Javadoc outside of the Eclipse IDE, click on index.html in the following subdirectory:

- *penprofile-apidoc*

- *License*

Livescribe's license agreement for third-party developers, in TXT and PDF formats. All developers must accept this agreement before downloading the Penlet SDK.

- *Livescribe Developer License Agreement*

- *EclipseFeature*

Zip archive that contains a Livescribe-specific Eclipse feature. The feature consists of Eclipse plugins created by Livescribe to provide specialized functionality for penlet development. The feature supports both Mac and Windows.

- *Resource*

In the *audio* subdirectory, you will find WAV files for the sounds that Livescribe uses in its penlets. To ensure consistency across all applications on the smartpen, third-party developers should include these audio files in their penlet projects, as needed.

- *README.txt*

This file provides a quick overview of how to set up your development environment. Aimed at experienced developers, it briefly describes set up for the three development environment options described above. For more detailed instructions, see *Developing Livescribe Open Paper Applications*.

## Resolved Issues

The following issues from the previous SDK release(s) have been resolved:

- Livescribe Penlet class files updated for Pulse Smartpen Firmware 1.4. (Livescribe class library is up to date in the Eclipse feature.)
- Penlet undeploy (removal) in the Eclipse feature now works properly. (Errors in pen com libraries and in the Eclipse feature have been fixed.)
- Penlet code generated by the new penlet wizard in the Eclipse feature now initiates ICR--intelligent character recognition--correctly. (The ICR code template has been corrected.)
- Errors that occur during penlet compilation are now displayed in the UI of the Livescribe Eclipse feature.