

# *Javelin* <sup>TM</sup>

## The World's Slickest and Most Intuitive Graphical Object Oriented Development Tool for **JAVA**

NOTE: readme.doc and readme.txt have the same content. One is an MS Word document which can be read by WordDoc or MS Word and one is a plain text file which you can read with notepad.exe

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# 1 Introduction

Javelin was the first to bring truly graphical object oriented development to Java developers. Step Ahead Software's commitment to innovative research and development ensures that Javelin users are working with the most advanced, quality tool money can buy. Users deal with classes as icons and rarely concern themselves with the underlying text files. Improved productivity through reusability, automatic documentation, an uncluttered workspace and full support of the object oriented programming model makes Javelin the first choice for both beginners and experienced Java developers alike.

Step Ahead Software have taken a unique evolutionary approach to the development and release strategy of Javelin. Rather than releasing "major" revisions once or twice a year we develop a small group of new features and test them incrementally so that releases are more frequent. This brings newer features to users in a much shorter time frame. Distribution via the internet makes this approach possible. Many minor upgrades can be downloaded and used free of charge by those who have already purchased a license. Certain releases with major new features will require an upgraded license to be purchased and a new password will be provided. Existing users can upgrade their licenses at heavily discounted rates. When upgrading to a license users must quote their existing serial number. Part of the license agreement forbids giving access to or otherwise making available your serial number or password to another person by any means.

## 2 History

Javelin is a version of the internationally successful Visual Classworks graphical object oriented development for C++ created by Step Ahead Software Pty Ltd. Visual Classworks generates and manipulates C++ code via the graphical user interface. Javelin works the same as Visual Classworks except that it has a JAVA code generation engine instead of a C++ code engine. For this reason the two products are very similar. In fact they share much common code. When we add enhancements to Visual Classworks/C++ these will be automatically incorporated into the Javelin product and available in the next version.

## 3 Pricing and Ordering

As distributed from our site or other sites this evaluation version of Javelin will not allow projects to be saved and has the import feature disabled. When you purchase a user license you will promptly receive your serial number and password via email or fax when you purchase your copy. This will unlock the save and import facilities, turning your evaluation into the full professional edition.

### 3.1 Pricing

Javelin pricing information is contained in the file order.txt. Javelin is priced so well that it smashes apart the price/performance barrier for tools of this nature.

### 3.2 How do I Purchase my copy?

When you purchase your copy of Javelin you actually receive a serial number and password which convert your evaluation copy to a licensed "real" copy. See order.txt for pricing information. We accept VISA and Mastercard payments. To order your password and serial number do one of the following:

- If you are located in USA or Canada phone TOLL FREE 800 210 942.
- If you are located outside USA and Canada phone +61 2 477 3398
  - Fill out the order form in order.txt in the C:\JAVELIN directory or the directory to which you installed Javelin and fax it to +61 2 452 3363.

You can also visit our Web site <http://www.ozemail.com.au/~stepsoft> for ordering information.

### **3.3 Discounted Student Purchases**

Understanding that many students experience financial strain while studying we provide a discounted student purchase facility. Students may purchase a license for the professional edition at a reduced rate (see order.txt). To be eligible to receive a discounted student purchase and to avoid inelligible people taking advantage of the discounted student purchase you must:

- Be a student at an educational institution; and
  - Provide the proof of your being a student, eg., photocopy of student card or letter on university letterhead.

## **4 Requirements**

You will need:

- Windows 95 or Windows NT. The javac compiler and appletViewer are 32 bit applications and will not work on Win 3.11. On Windows 95 and Windows NT Javelin allows long filenames for the class files.
- Sun's JDK (Java Developers Kit). This contains the compiler and other tools you may find useful. The JDK is available from Sun's site: <http://java.sun.com>
- 3 MB hard disk space on your PC for Javelin plus whatever is required for Sun's JDK.

## **5 Installation**

Choose Start|Run and enter setup.exe or at the DOS prompt in Win 95 just type setup when you are in the directory containing the decompressed distribution files.

**If you have any questions please don't hesitate to email us at [stepsoft@ozemail.com.au](mailto:stepsoft@ozemail.com.au) We pride ourselves in being keen to turn valuable user feedback into better products.**

## **6 New Features**

### **6.1 Version 5.00b**

#### **6.1.1 Class Browser**

You can now search for classes in a class list box. From there you can also get to the details and members dialog box for each class. In addition hitting the Show button will focus the design slate on the current class.

#### **6.1.2 Import Facility**

Makes it easy to import your existing Java code or sample or tutorial code into Javelin. You can import classes as library (no code generation) or user classes (a new source file will be created and from that point changes made via Javelin will be reflected in the new source file).

Be sure to read up on importing in the online help.

#### **6.1.3 Improved Performance**

The slickest and fastest graphical environment for Java just got slicker! Javelin's efficiently written code has always resulted in excellent performance even on the low end 80386 PCs - now its even quicker!

## **6.1.4 New Enhanced support for Interfaces**

Version 4.49 now supports the direct creation and modification of interfaces. They are drawn differently to classes. Interfaces are displayed with a notch in the top right corner. Only static variables and abstract methods can be added to an interface as interface methods can never have code associated with them. Instead the methods declared in an interface must be coded by classes that “implement” the interface.

To create an interface right click on empty space in the design slate and select “Add Interface”. The dialog box used for interfaces is similar to that used for classes.

When reading projects from previous versions of Javelin any “implements” relationships created will be automatically converted.

## **6.1.5 Constant Data Members**

Java supports constants in a simple and typesafe manner. Constant data members are variables (class data members) whose value can not change from its initialized value. Javelin now explicitly supports this feature. To mark variables in a class as constant simply check the Constant Value check box.

## **6.1.6 Additional Example projects**

Introduction to OO project. This project runs through a quick introduction to OO programming.

Interfaces. This project describes Java interface and how they relate to normal classes.

## **6.1.7 For advanced users**

### ***6.1.7.1 Static Initializers***

Java makes it possible to provide a method for each class that is executed whenever your applet or application starts. In Java this method is static and has no name or type. Javelin allows you to create a single static initializer for each class. To do this create a method with no characters in the name field and make the method static. Javelin allows only one static initializer per class. NOTE: see the import section in online help for more information regarding importing of static initializers.

### ***6.1.7.2 Throws Statement***

Version 4.49 now allows advanced users to make a throws statement after a method’s argument list. Type in the names of the exceptions and separate them with ‘,’. If this is left blank, the default, then no throw clause will be generated.

## **6.2 New Since Version 4.46**

### **6.2.1 Customizable Color Scheme**

Added color setup so that users can customize the design slate colors. The background color must always be a solid color (as opposed to a dithered color) so on a display with a 256 color palette the requested color may not always match the actual color used for the background. The display color for the other configurable items may be dithered. To access the feature Select Options|Colors. The options are save in the Javelin.ini file under [System] section under the “sc” entry. sc stands for system colors.

## 6.2.2 Enhanced In Built Editor

### 6.2.2.1 New Menu

Added Menu to the inbuilt editor to do things like cut/copy/paste/delete find/find again/replace etc., Can be accessed via standard Windows hot keys:

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<b>Cut</b>	Ctrl+X
<b>Copy</b>	Ctrl+C
<b>Paste</b>	Ctrl+V
<b>Delete</b>	Del
<b>Find</b>	Ctrl+F
<b>Find Again</b>	F3
<b>Replace</b>	Ctrl+H

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### 6.2.2.2 Position and Size

The position and size of Inbuilt editor is now stored whenever you change it so that it opens at the same position at which it was last opened.

### 6.2.2.3 Fixed Focus Problem

Fixed problem with lost focus when focus shifts to and from another application when in inbuilt editor. This most often occurred when using Ctrl+F1 in the in built editor to open a help file setup by the user.

## 7 Getting Started

### 7.1 Feature Overview

For a very quick start you can open \Javelin\features\feature.vcw and then \Javelin\features\toolbars.vcw. These contain quick start instructions.

### 7.2 Quick Start Tutorial

We recommend that you have a quick flick through the main sections of the help file (oodhelp.hlp) and then work through the getting started tutorial (tut.hlp). Double click on their names in the windows explorer to open them.

We will be providing examples of Javelin projects on our web site so make sure you make <http://www.ozemail.com.au/~stepsoft> a regular port of call as you cruise the *infobarn*.

Javelin projects (after serial number and password are obtained) can be saved at anytime using File| Save Project. In addition they are always saved when closed. It is good practise to save your work regularly to guard against power failures etc.,

## 8 Javelin Features

This is a list of features that apply to Javelin and which are not applicable to the Visual Classworks for C++.

## 8.1 Long Filenames

In Javelin classes are stored in a file named <classname>.java. This is how the Java compiler expects them. You are not restricted to short DOS filenames for the names of your classes or pathnames.

## 8.2 Code Generation

JAVA files (.java) are automatically created when you create a class in Javelin. As you make changes they are automatically updated to reflect the changes made from within Javelin. There is an option to force the code for selected classes or all classes to be generated. This is only ever needed if you have changed the copyright message in Project|Options or for some reason have deleted or lost one or more of your .java files. Regenerating will then recreate the files from scratch BUT with no code in the function bodies.

**IMPORTANT:** Javelin stores all design details, such as class names, method names and types etc., in its project file (.vcw). It does not, however, store the code in method bodies. This is stored in the .java files themselves. If you delete or lose a .java file then the source code for its methods will be lost. In this event you can regenerate to recreate skeletal code but method bodies will be empty.

## 8.3 Compiling Java Source From Javelin

User's can instruct Javelin to call the javac compiler directly. It will automatically attempt to compile all of the files for classes that have been modified since they were last compiled. Note: This option only works for Win95 and Win NT environments.

To run the compiler press the left most button in the tool bar. If you experience problems then ensure that your PATH environment variable (in autoexec.bat) includes the directory containing the javac compiler (would typically be c:\java\bin but it depends on where you installed the JDK)

A DOS window will appear and the javac compiler will compile those files that need to be compiled. If there were errors then Javelin will bring up notepad with a file containing the errors.

## 8.4 Running Your Java Programs

You can specify the command that is issued when the button second from the left is pressed. By default it will call the appletViewer executable passing it the name of the html file index.html. NT 3.5x users should read the Note below for how to tailor this feature for use under NT 3.5x. You can change this by adding an entry to the visclass.ini file under [Options] section called run. For example to change the run option so that you execute the java interpreter (java) instead you add or change the run option to:

```
run=java myclass.class
```

## 8.5 Implements

C++ does not have a concept of an interface. Java does. When creating relationships between classes you are asked to choose "Inheritance or Implementation". Other relationships such as one-to-one, one-to-many are called association are supported in the professional version only.

An inheritance relationship is shown as a line with a solid arrow drawn from the subclass to the superclass. An "implements" interface relationship is drawn as a line with an open arrow drawn to the interface class from the class that is implementing the interface.

## 8.6 Associations

Javelin supports the creation of associations graphically. Associations are the one-to-one, one-to-many relationships that exist between entities in a system. These relationships are as important as inheritance and interface implementation relationships.

If you are a professional object oriented modeller then associations allow you to perform complete business modelling in the design slate.

## **9 Notes for NT 3.5x users**

Due to slight incompatibilities between Windows 95 and Windows NT 3.5x users must make two simple changes in order to invoke the appletViewer from the tool. See <http://www.ozemail.com.au/~stepsoft/javhints.html> for more information. This problem disappears under Windows NT 4.x.

## **10 Trademarks**

JAVA is a registered trademark of Sun Microsystems. All other trademarks are the property of their respective owners. Javelin is a trade mark of Step Ahead Software Pty Ltd.