Have your Cake and Eat it Too:

GPS: The GNAT Programming System IDE
When I Say Ada What Do You Think of ?
When I Say Ada Do You Think of …

✓ Reliable, safe, secure programming language
Or Do You Think of …

Cool, friendly, widely-available development environment
Soon You Should be Thinking of Both

✓ Reliable, safe, secure programming language

Cool, friendly, widely-available development environment
GNAT & Programming Environments

► GLIDE
  • Emacs-based environment
  • Powerful but Emacs-bound appeal

► GVD
  • State-of-the-art GUI-based debugger

► GPS
  • Widely available Ada 95 IDE
  • Easy to use by professionals & students
  • Allows to develop & maintain large systems
  • Allows to develop simple student projects
  • … often a contradictory requirement in the Ada development arena
The GNAT Programming System

Develop Applications
Maintain Sources
Navigate through Code
GPS: The GNAT Programming System

- Developer-friendly
- Modern GUI
- All tools tightly integrated
- Multi-platform: Linux, Unix, Windows
- Multi-language: Ada, C, C++
- Native & cross development
- Extensible
- Open technology
GPS: The Programmers' Companion

► Developer-friendly
  • Intuitive interface
  • Easy to learn and use
  • Allows to develop, build, maintain large complex systems

► Modern GUI
  • Same look’n’feel for all tools and on all platforms
  • Can plug your favorite look’n’feel (e.g. Windows)

► All software-engineering tools are tightly integrated
  • Tools interact in a coordinated fashion
  • Launch all tools from the same interface
  • User's extensions tightly integrated
GPS Tools

►► Language sensitive editor
►► Source code navigation
►► Source-level debugger
►► Project, dependency & call graphs
►► Version control (RCS, CVS, ClearCase, ...)
►► Project & configuration manager

►► Class, type & instantiation graphs
►► Unit testing
►► Reformatting tool
►► Documentation generator
►► Metrics
►► Refactoring tool

►► GUI builder
►► Real-time event monitoring
The GNAT Programming System

A Flexible, Extensible, and Open Technology
GPS & Heterogeneous Environments

While developing for remote targets (compile, debug,...) Run GPS on your local machines
GPS is an Open Environment

► All tools also available from the command line
  • You can use them in text-only mode (e.g. for use in scripts)
  • Call them from your own tools

► All formats use plain text
  • E.g. the project file

► Ability to plug in your own tools
GPS is Customizable & Extensible

► You can change key bindings, shortcuts, font colors, etc

► You can add a menu or a button to invoke a new tool

► You can extend the editor to understand a new language

► Easy to plug-in 3rd party tools

► The ultimate extensibility: You can plug your modules in GPS
GPS Architecture

LOC

200,000 Ada
- 90,000 GNSA
- 50,000 GVD
- 60,000 GPS

100,000 Ada

400,000 C

GtkAda
Thick Ada binding

Gtk
toolkit for creating graphical user interfaces

X11 or Win32
graphic libraries

Linux, Unix, Windows
Summary

The GNAT Programming System

► Helps you manage software complexity

► Increases software development productivity

► With a comfortable, easy to use interface