

C++ GUI Builder for Mobile or Embedded devices - NAB project update

Mar 20, Thursday, 11:40~11:50, Room 209/210

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<http://www.eclipsecon.org/2008/?page=sub/&id=37>

This is 'February 17, 2008' version

NAB (Native Application Builder) project provides C++ GUI building environment. It can create the GUI application visually and it can generate C++ GUI source code automatically. Once the source code was generated, you can make binary code for multiple platforms including mobile and embedded devices, such as Windows, Linux, MacOS, and several real-time operating systems.

Conceptually, this is similar to SWT and JFace but NAB tool was written in C++ and designed for use in C++ applications. This talk will provide an overview of NAB, and describe release plan. You can get the valuable information for new way to GUI development and you can get the information of the way to implement the own GUI libraries.

At now, NAB project provides the plug-in for MWT run-time library distributed by WideStudio open source project. But we aim for an extensible framework for various libraries.

Shigeki is the project lead of the Native Application Builder (NAB) project - a DSDP project focused on making multi-platform, extensible, GUI builder for native binary applications standing on the variety toolkits. He is also a member of the DSDP Project Management Committee (PMC). Shigeki has over 16 years of experience in automotive software/hardware development in Japan, and over 5 years of experience in internet/mobile streaming. He also has experience in activity of internet/software community, and now he works for Fujitsu as open source software strategist. Shigeki holds around a hundred of patents, and he has written several articles and books, most recently book is the "Understanding the Streaming" from Ohm-sha Japan.



1. Demo!

2. What is NAB

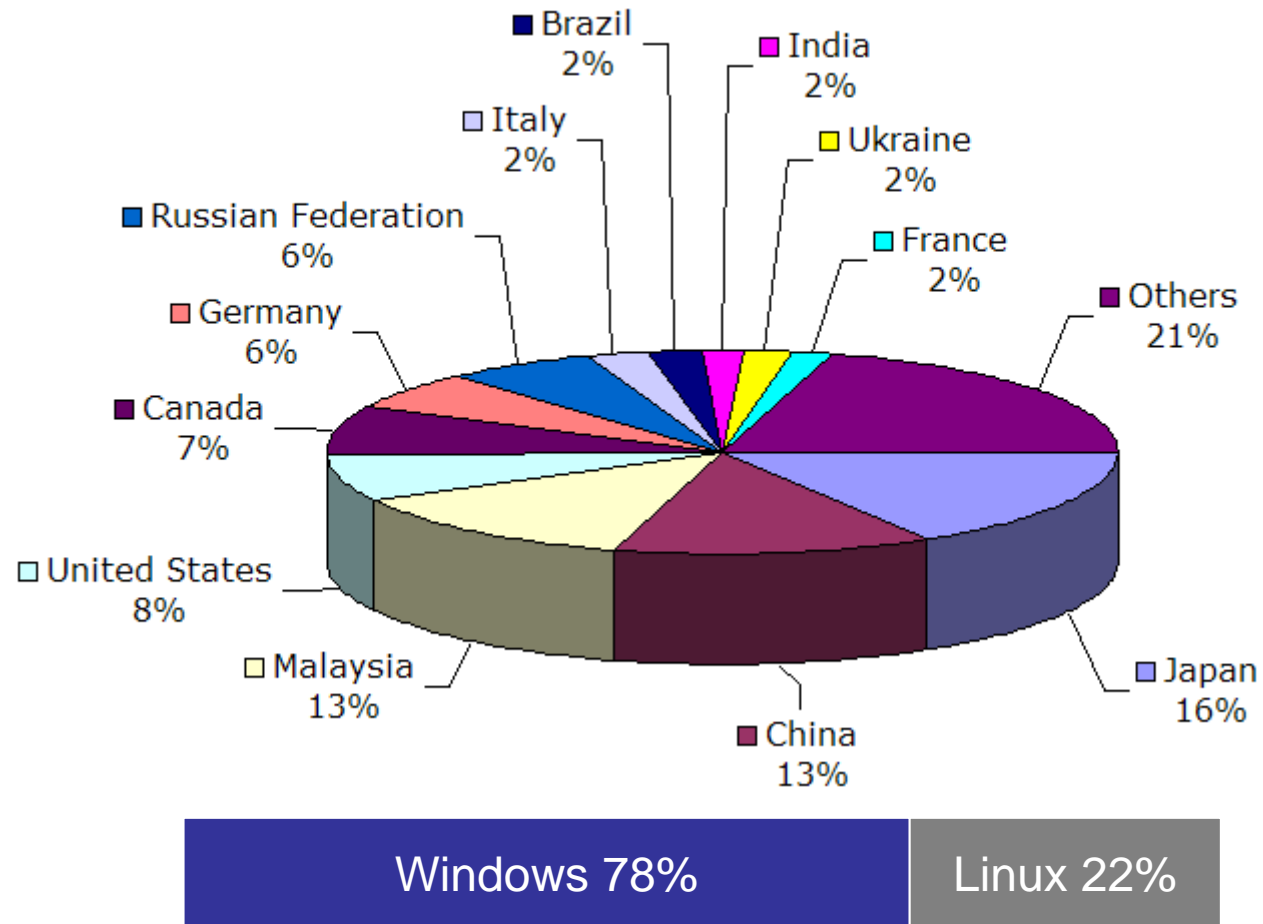
- ◆ About NAB project

3. Invitation to the NAB project

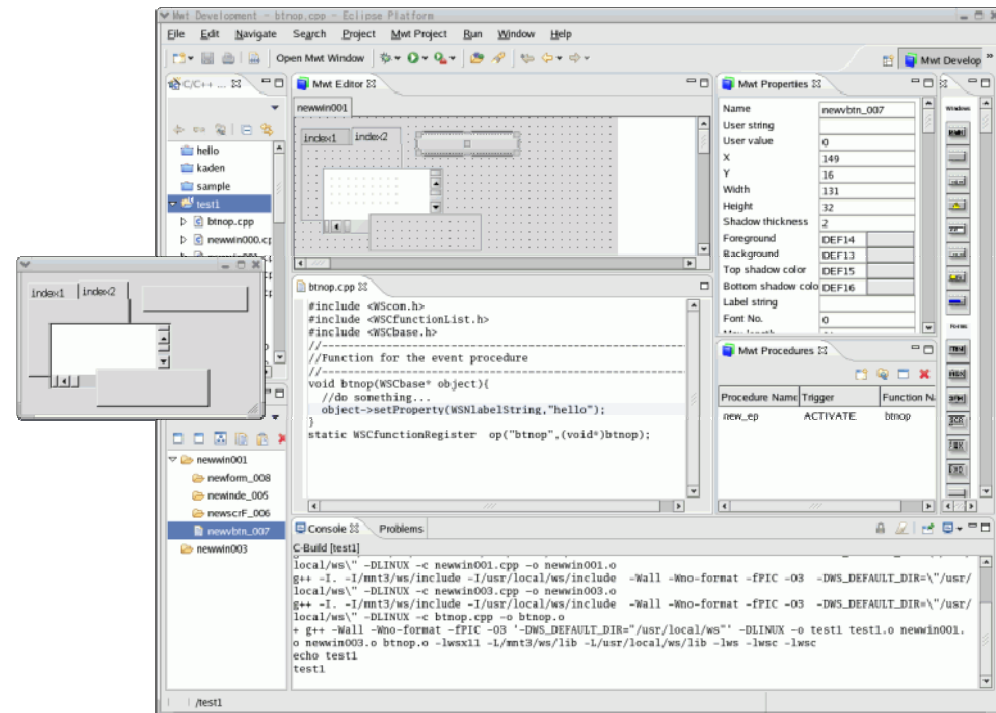
- ◆ Please Join us!

- 2005
 - ◆ Apr Talk with Mike Milinkovich, Executive Director, at Tokyo.
 - ◆ May Talk with Doug Gaff, DSDP Lead at Orlando.
 - ◆ Aug NAB proposal posted as DSDP sub-project.
 - ◆ Aug Beta version released.
- 2006
 - ◆ Jan Creation Review, approved.
 - ◆ Mar Short Talk at Eclipsecon 2006
 - ◆ Jun Milestone 1 release (0.9.5) with Callisto
 - ◆ Oct Bug Fix release (0.9.6)
- 2007
 - ◆ Jan Bug Fix release (0.9.6-1)
 - ◆ Mar Long Talk in Eclipsecon 2007
 - ◆ Oct Bug Fix release (0.9.7)
- 2008
 - ◆ Jan Bug Fix release (0.9.8), Ganymede Milestone release (M4)
 - ◆ Feb Bug Fix release (0.9.8-1), Ganymede Milestone release (M5)
 - ◆ Mar Short Talk at Eclipsecon 2008

- Total 7910 Downloads at Feb 17, 2008

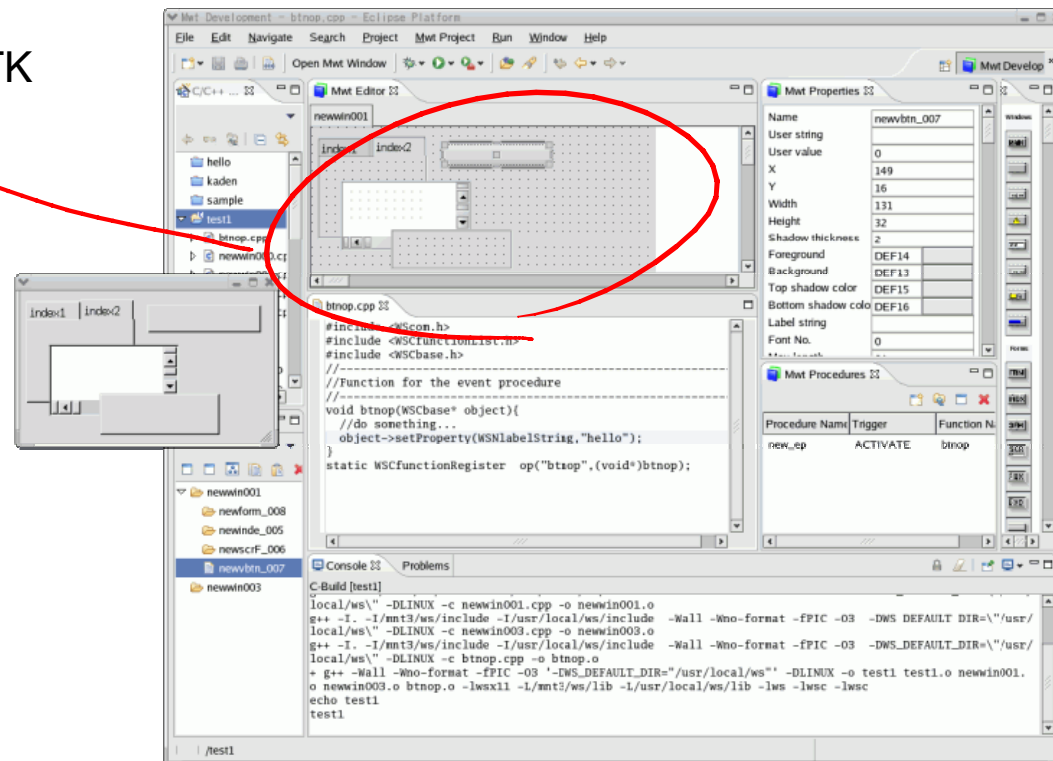
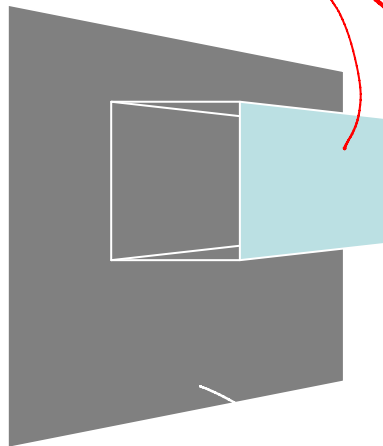


- To Create GUI Application Builder Frameworks and example tools
 - ◆ To Edit and Build C++ (or other languages) GUI Application on Eclipse.
 - supports C++ and java now
 - ◆ Supports variation of GUI Libraries.
 - supports MWT now
 - ◆ Write once, Build for many.
 - For embedded and others.



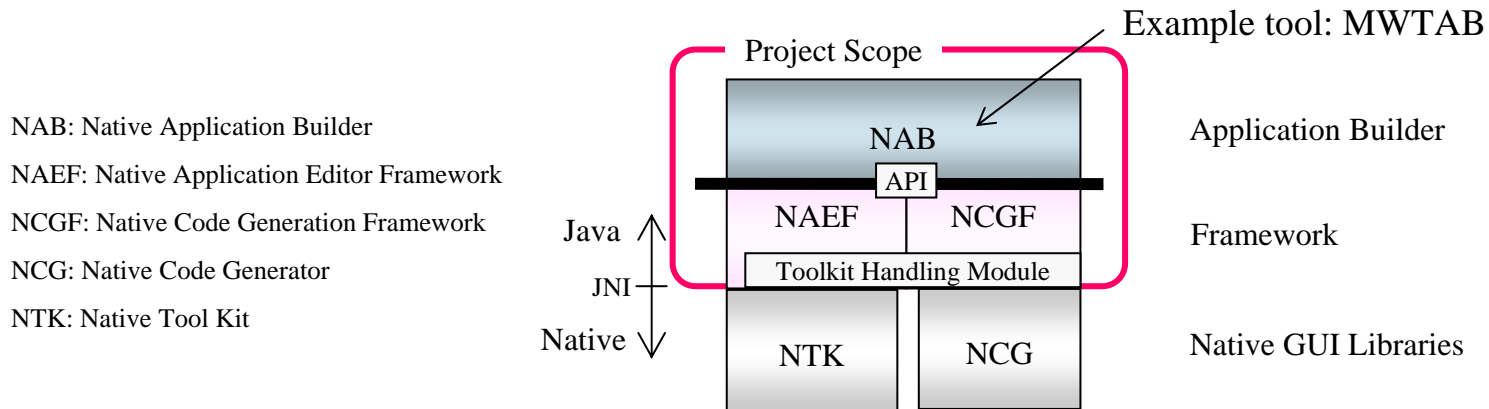
- Conceptually, similar to SWT and JFace
- Designed for making C++ applications
 - ◆ Other languages to be supported. (java, Perl, python, ruby and etc...)
- Design view was drawn by Native GUI Libraries. Not by java/SWT.
 - ◆ Because native GUI libraries have their special function and looks.

Drawn and Controlled by NTK



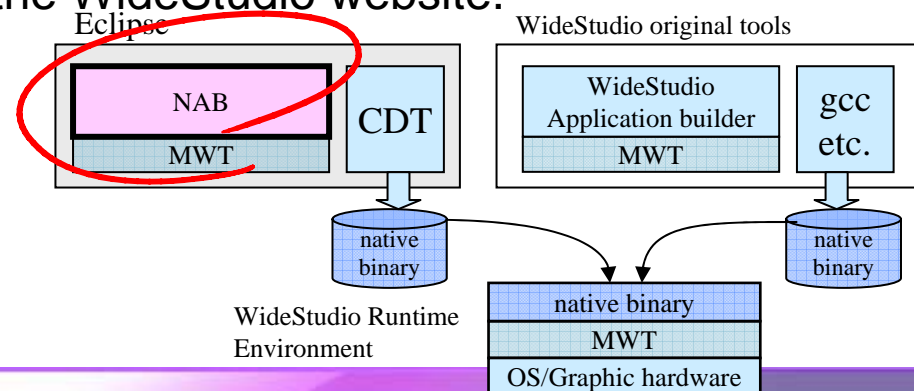
Architecture is "Framework and Example Tool" model.

- ◆ Application Builder/Example Tool
 - MWTAB (MWT Application builder) as example.
- ◆ Framework
 - NAEF (Native Application Editor Framework)
 - ✦ for Visual Editing
 - NCGF (Native Code Generation Framework)
 - ✦ Source code generator driver



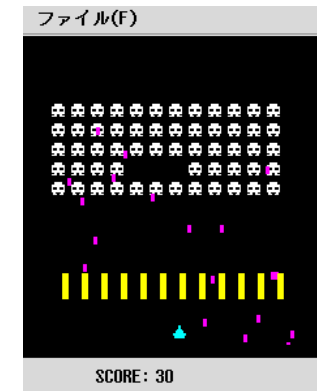
NAB: Native Application Builder
 NAEF: Native Application Editor Framework
 NCGF: Native Code Generation Framework
 NCG: Native Code Generator
 NTK: Native Tool Kit

- The NAB project was born from WideStudio/MWT
 - ◆ Open source, multi-platform GUI tools.
 - ◆ NAB project released for 'NAB plug-in for MWT' as example tool.
- WideStudio/MWT is composed by 2 part
 - ◆ visual GUI application builder.
 - ◆ multi-platform GUI library: MWT (Multiplatform Widget Toolkit).
- NAB is
 - ◆ started at the WideStudio application builder ported to the Eclipse environment.
 - ◆ The MWT libraries are not included in NAB.
 - ◆ can pick up run-time portions from the WideStudio website.



MWT: Multiplatform Widget Toolkit

- Light weight GUI library
- Variety of GUI parts
 - ◆ simple buttons to complex tree list.
 - ◆ non-GUI parts
 - event handling
 - threading/synchronization
 - Client-Server functions
 - Etc...
- Supports many platforms



Supported Platforms of MWT	
OS	Windows, Linux, MacOSX, FreeBSD, Solaris, T-Engine, ITRON, BTRON
CPU	IA32, ARM, SH3/4, FRV, MIPS, PPC, SPARC
Graphics	X11 Server, DirectFB, Frame Buffer, Win32, WinCE, T-Engine(T-Shell), MacOS

- GUI Edit Function
 - ◆ Edit and Arrange visually
 - ◆ Attributes and Property change visually
- C/C++ Source Code Generation and Edit Function
 - ◆ Event procedures of each MWT parts are generated automatically.
 - ◆ Can be add user specific event processing.
- Application Build/Execution Function
 - ◆ Build the application for many target of CPU, OS and GUI environment.
 - ◆ Application can be executed in the Eclipse environment.

Project Status and plan

- Almost complete implementation of Framework and Example tool.
 - ◆ Ready to release 1.0
- Cooperation with WideStudio user community.
 - ◆ But, We have to make a NAB community.
- We are in 'Incubation Phase' now.
 - ◆ NAB project needs the participant committer/companies to graduate.
- Plans for implementation of other GUI Libraries are welcome.
 - ◆ GTK, Win32? And your own Libraries...



- NAB project Home <http://www.eclipse.org/dsdp/nab>
- Help Site <http://dsdp.eclipse.org/help/latest/index.jsp>
- dsdp-nab-dev ML <https://dev.eclipse.org/mailman/listinfo/dsdp-nab-dev>
- News <news://news.eclipse.org/eclipse.dsdp.nab>
- My Blog (Japanese) <http://shigeki-m.blogspot.com>

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Please Join Us!

Any Questions?