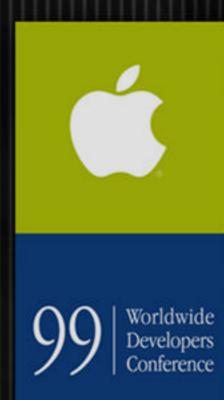
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Using ProjectBuilder for Mac OS X Development

Dave Payne Manager, Mac OS X Developer Applications

Introduction

- This session: Using ProjectBuilder in Mac OS X Developer Preview
- Next session: Future Directions of Apple's Mac OS X Development Tools



Commitment

- Mac OS X is Apple's future
- ProjectBuilder and InterfaceBuilder are Apple's development tools for the future

Mac OS X Development Tools Suite

- ProjectBuilder
- InterfaceBuilder
- WebObjects Builder
- EOModeler
- FileMerge
- Sampler, MallocDebug

Wide Variety of Projects

- Cocoa
- WebObjects applications
- Frameworks and libraries
- Command line tools
- Background daemons

• And now—Carbon!

ProjectBuilder Is Apple's IDE

- Project creation and editing
- File editing
- Language-sensitive search & replace
- Build system
- Graphical source code debugger

InterfaceBuilder Is Apple's GUI Builder

- WYSIWYG, drag-and-drop layout
- Visual connections
 - Outlets
 - Actions
- Custom Inspectors
- Extensible palette mechanism



Conference

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InterfaceBuilder and ProjectBuilder Stefanie Herzer

Recent ProjectBuilder Improvements

- Source code importer
- Stack backtrace and source code views in Debug panel
- Source code views in Project Find and Build panels
- Navigate into framework project source code

Carbon Support in ProjectBuilder

- Carbon Application and Carbon Component project types
- Makefiles for Carbon project types
- Default build attributes and makefiles set variables such as TARGET_CARBON
- Handling of C + + files

The egcs Compiler

- Derived from gcc compiler
 - Open source
 - Ported to many platforms
- Support for the full C++ language
 - Standard Template Library
- Generates MachO, the Mac OS X native executable format



Developing for Carbon in ProjectBuilder

- Import sources into ProjectBuilder as Carbon project types
- TARGET CARBON is set in project's build attributes
- Ensure that you're using UNIX line termination



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Native Debugging in ProjectBuilder

- Leverages gdb
- Conditional breakpoints
- Evaluate arbitrary expressions and make function calls
 - Call CFShow() to display CoreFoundation data structures
- Print memory contents as a data structure



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Performance Analysis

- Sampler—statistical execution profiling
- MallocDebug—memory allocation and leak analysis



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Summary

- Apple is committed to creating great development tools
- Please send us your feedback macosx-tools-feedback@group.apple.com

Roadmap

Carbon Overview	Hall C Fri., 9:00am
Carbon on Mac OS 8 (Porting)	Hall C Fri., 1:00pm
Carbon on Mac OS X	Hall C Fri., 2:30pm
Core Foundation: Plug-ins	Hall A1 Fri., 4:00pm
Intro to the Cocoa (Yellow) Framework	Hall B Fri., 9:00am
What's New in Cocoa (Yellow) Framework	Hall B Fri., 10:15am

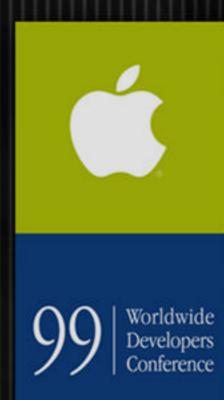


Think different.



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