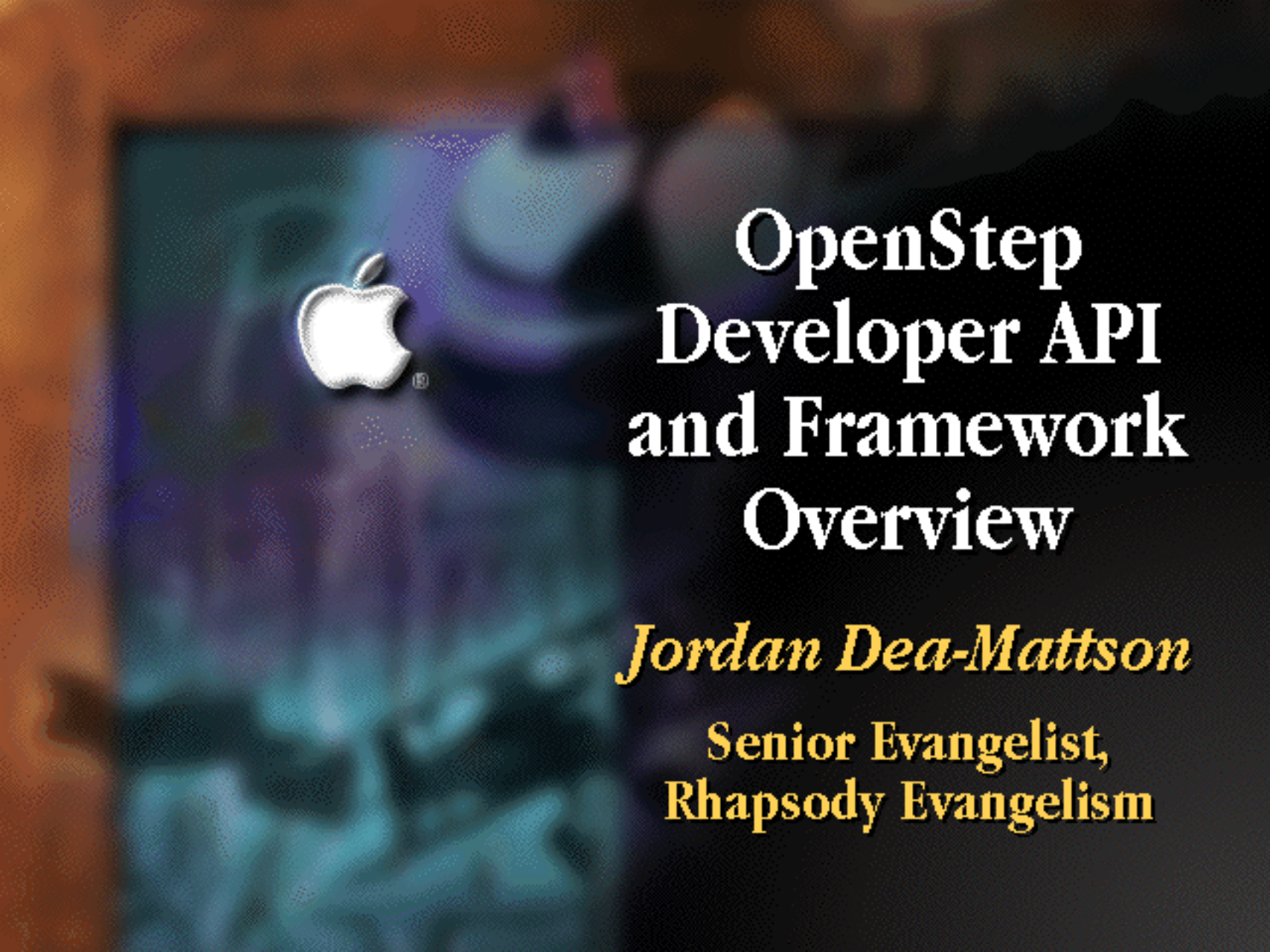

Worldwide
Developers
Conference


OpenStep
Developer API
and Framework
Overview
Jordan Dea-Mattson
Senior Evangelist,
Rhapsody Evangelism


Yellow Box
Technical
Overview
Peter Graffagnino
Director,
Yellow Box Engineering

What We'll Cover…

What We'll Cover…

- What is this Yellow Box thing?

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- What is this Yellow Box thing?
- Guiding Principles

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- Functional Overview

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- Comparisons

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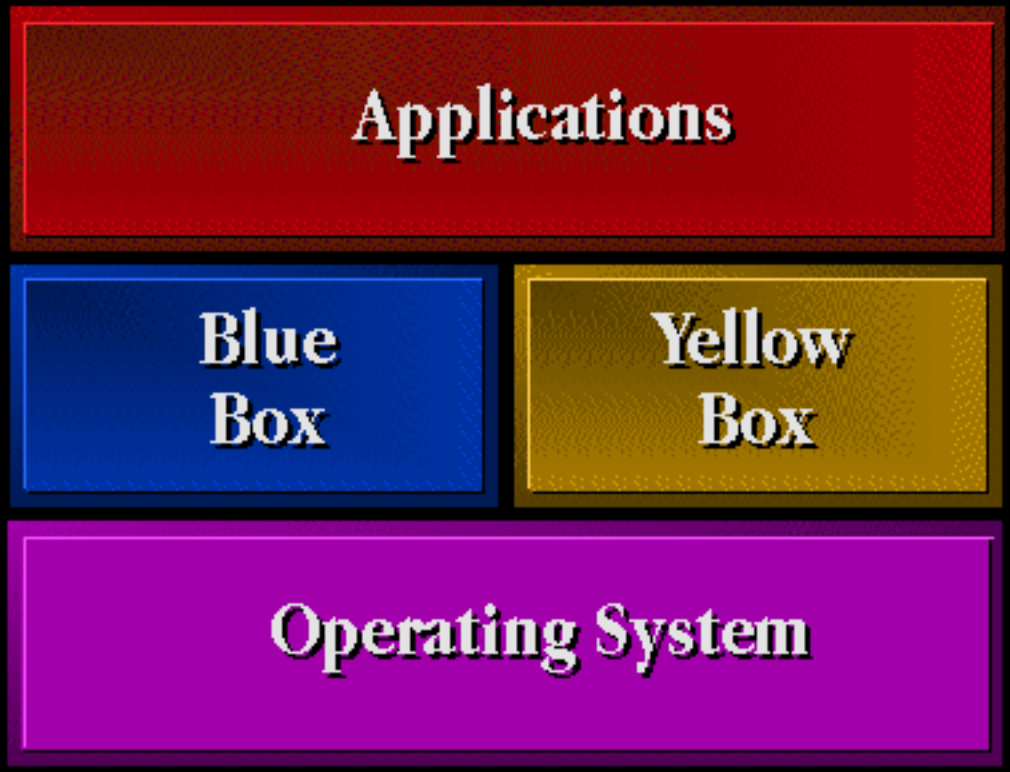
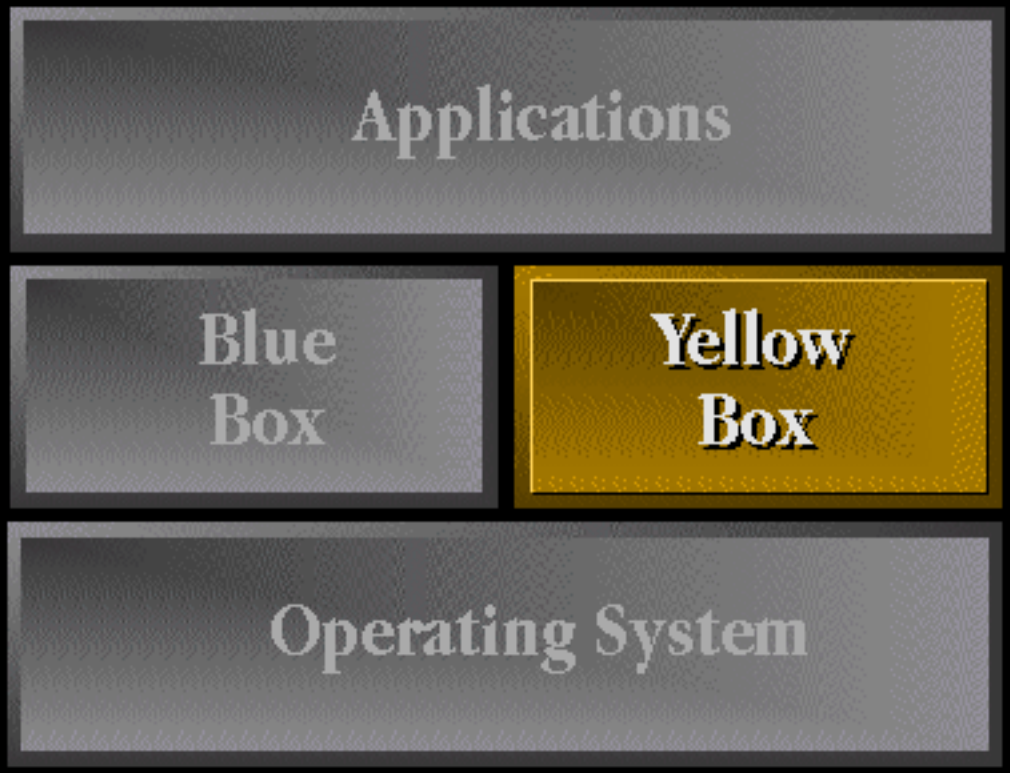
- Comparisons
- Opportunities

Rhapsody Architecture



You Are Here…



Some History and Terminology

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- "NEXTSTEP"—NeXT's Mach based OS and frameworks, last release NEXTSTEP 3.3

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- "OpenStep for Windows"—OpenStep frameworks on Windows NT/95

…And Now

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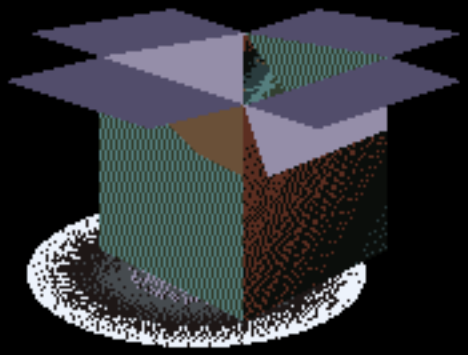
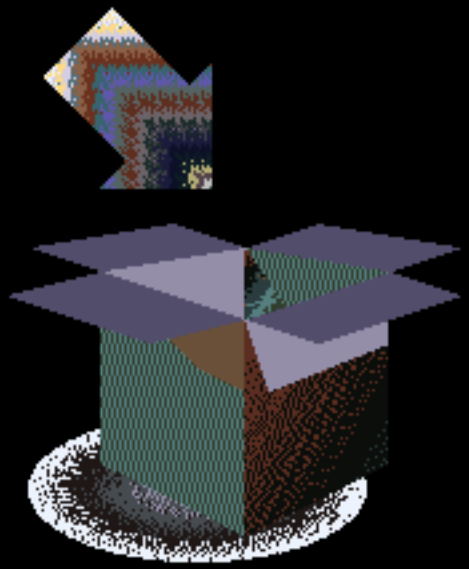


. . .And Now

- NeXT Technology



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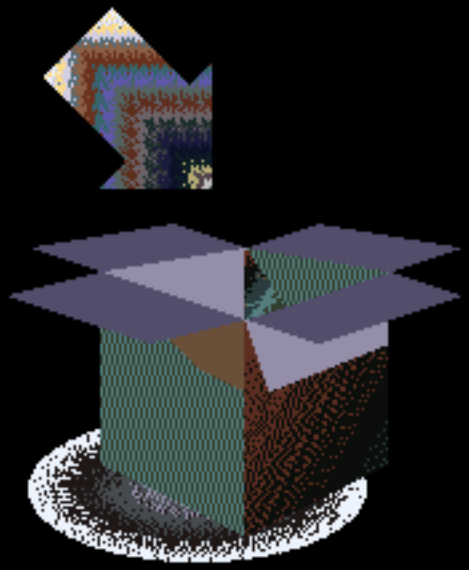
NeXT Technology

OpenStep APIs



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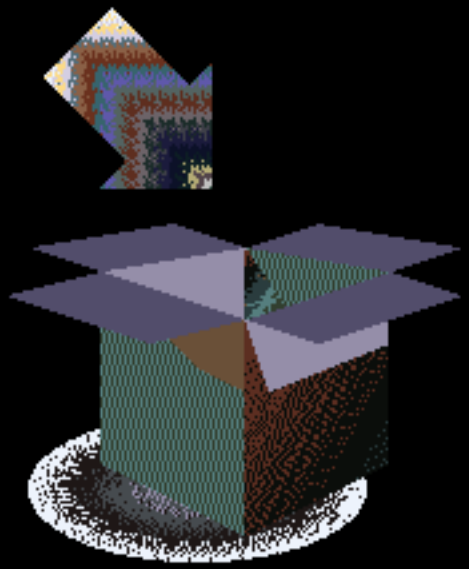
NeXT Technology

OpenStep APIs

Distributed Objects



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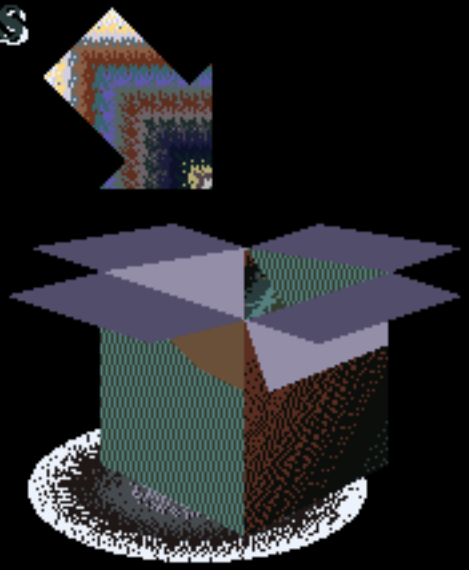

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NeXT Technology

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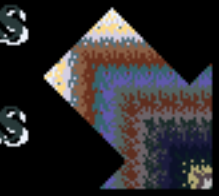

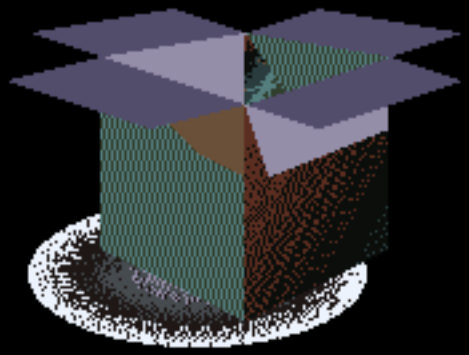

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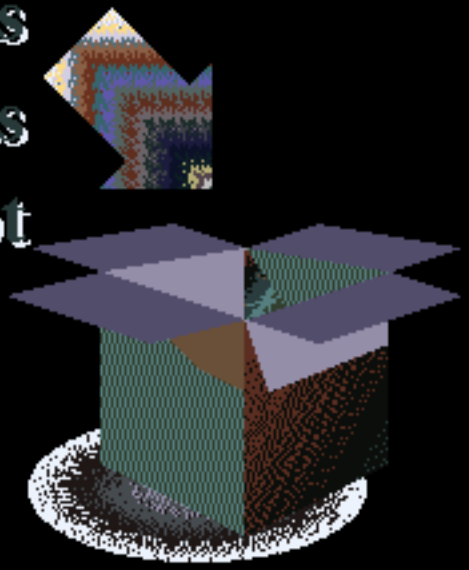
Display PostScript



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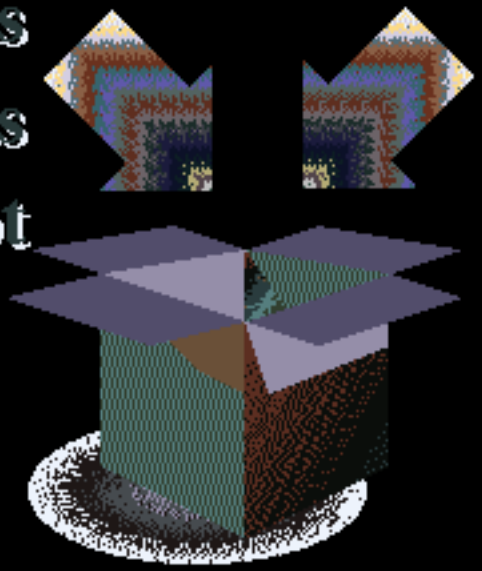
Apple Technology



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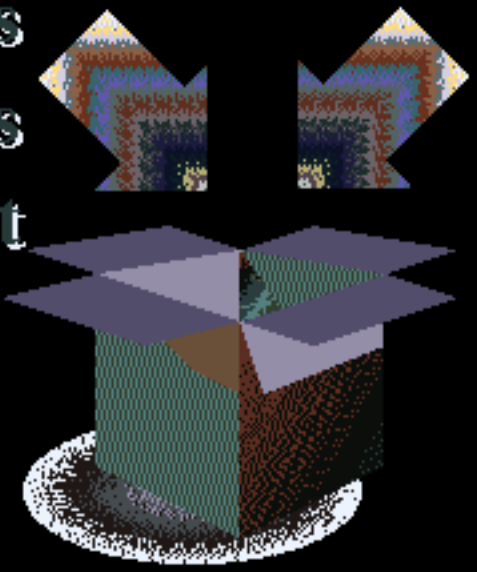
QTML



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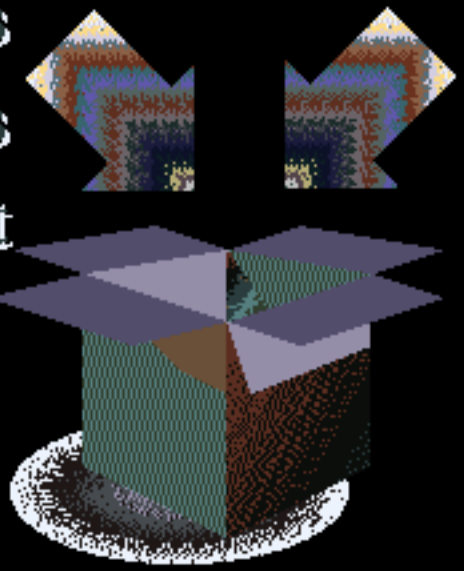

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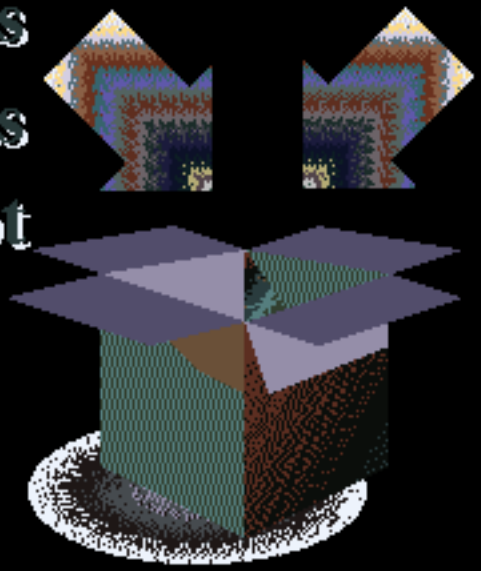

Apple Technology
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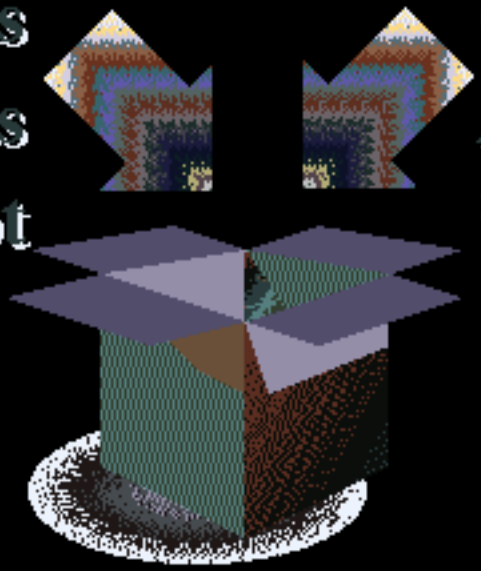

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Advanced Look and Feel

Yellow Box

Cross-Platform Application Substrate

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  - World ready
  - Java-enabled

Yellow Box Platforms

Yellow Box as a "Meta Platform" is highly portable

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Guiding Principles

Make developers more productive

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- Make Apps work well together

Visual Development Tools

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- Project Builder

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- Enterprise Objects Modeler

Visual Development Tools

- Interface Builder
- Project Builder
- Enterprise Objects Modeler
- 3rd party tools (i.e., Metrowerks, Symantec, Roaster Technologies, etc.)

Visual Development Tools

- More Info:
  "Developing with Interface Builder and Project Builder"
  Friday, 10:50, Hall 1

Powerful and Consistent APIs

Keep paradigms simple and synergistic

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Factor Common Code from Apps

Applications should leverage platform for common services

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  - Systemwide fax support

Factor Common Code from Apps

- More Info:
  "Designing Objects for Reuse and Extensibility"
  Wednesday, 5:50, A-1

Technology Integration

Technology Integration

Technology Integration

Technology Integration

ColorSync

RTF, HTML, TIFF, EPS, JPG, GIF

PostScript

Technology Integration

Unicode

ColorSync

RTF, HTML,
TIFF, EPS,
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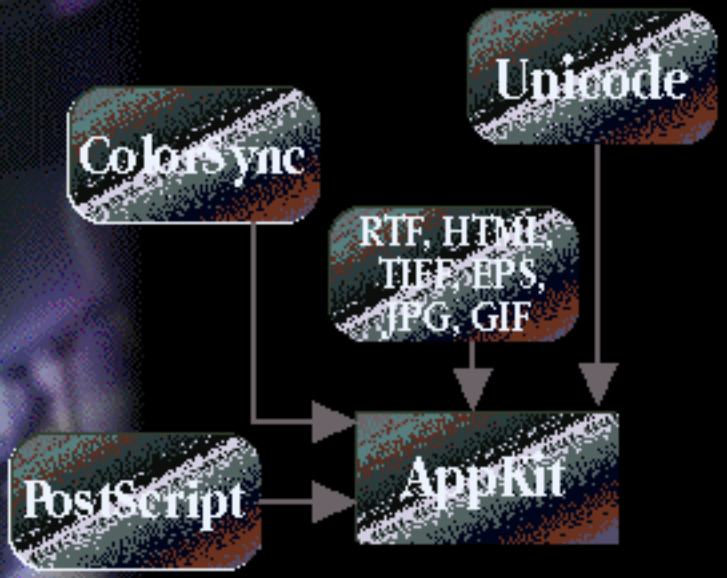
PostScript

Technology Integration



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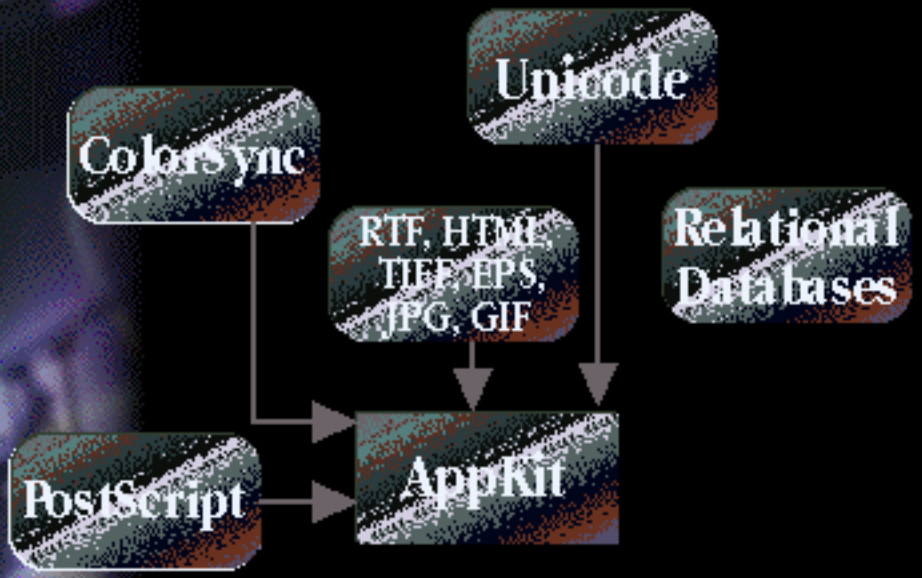

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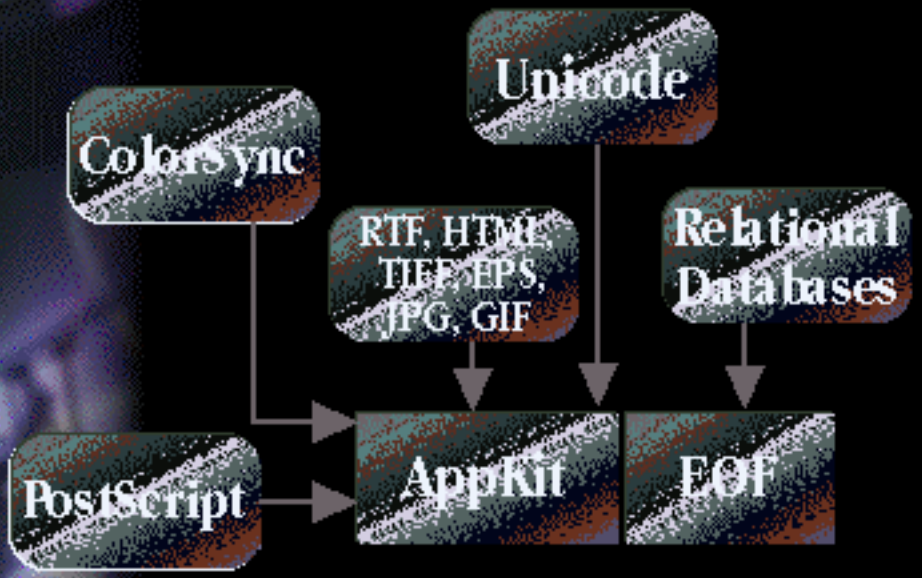

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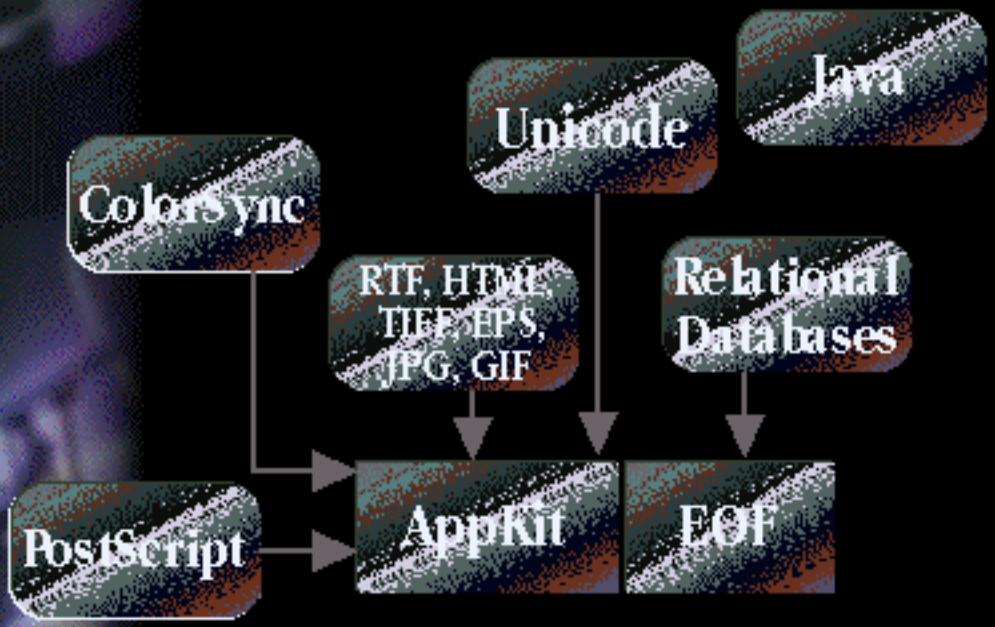

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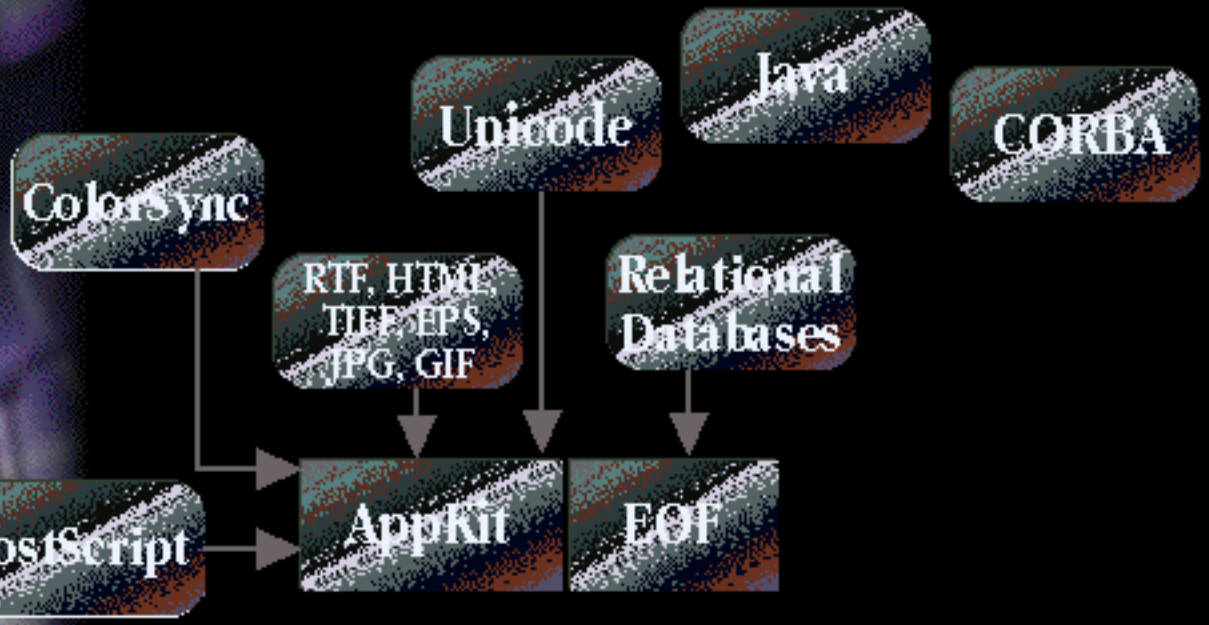

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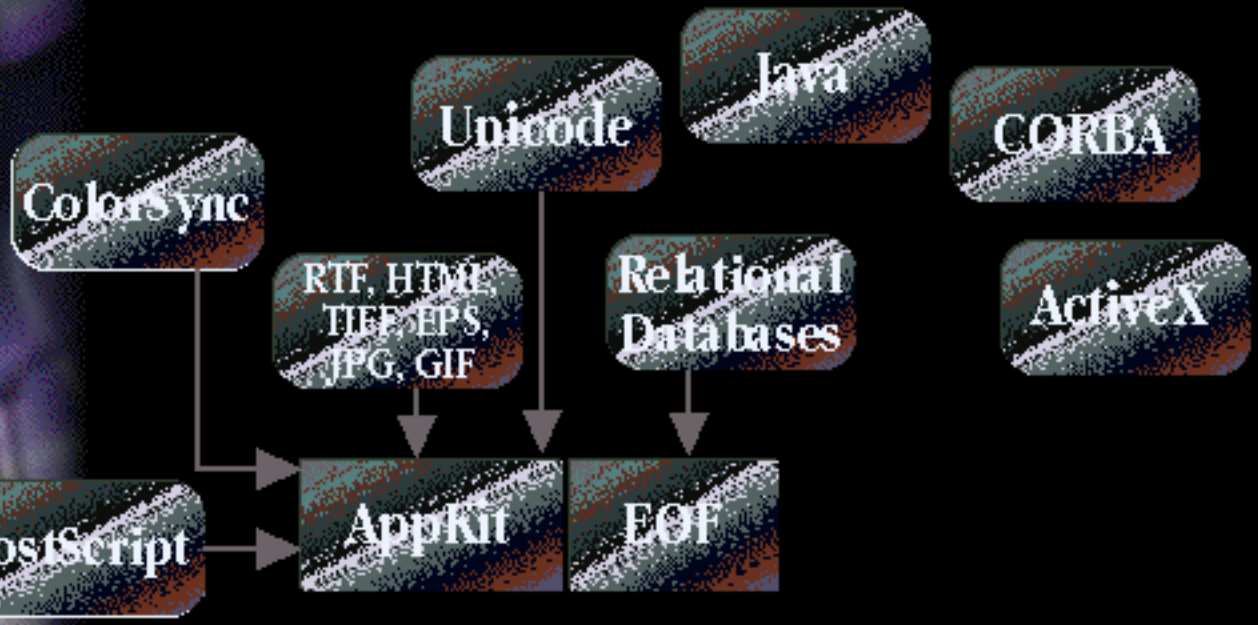

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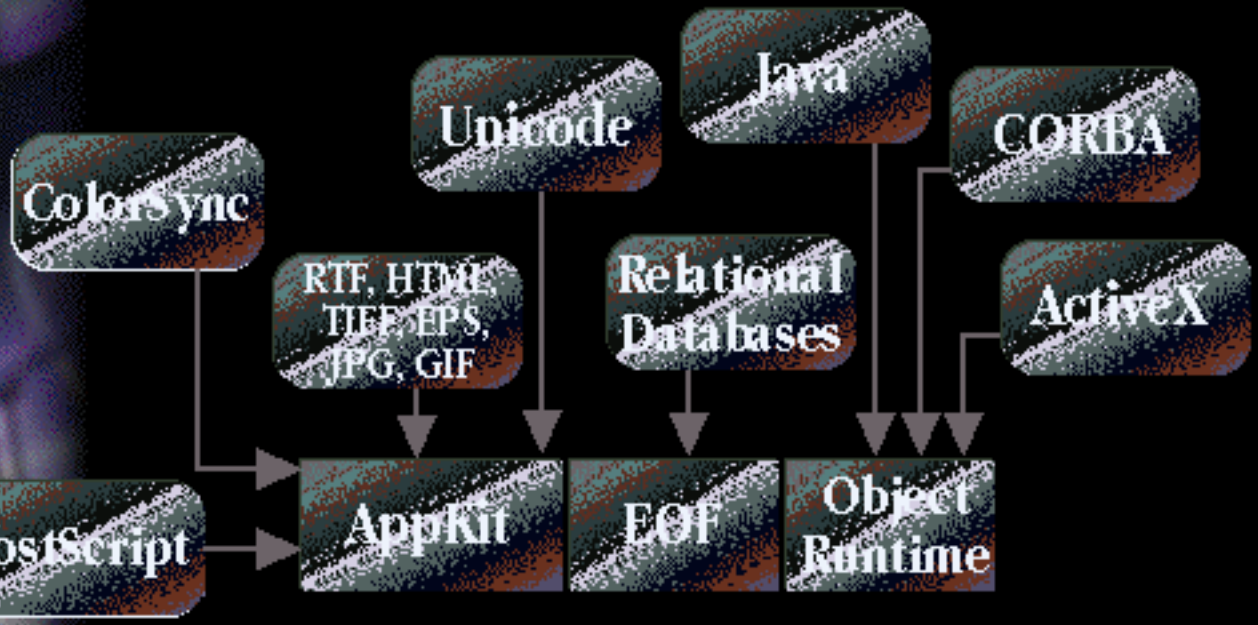

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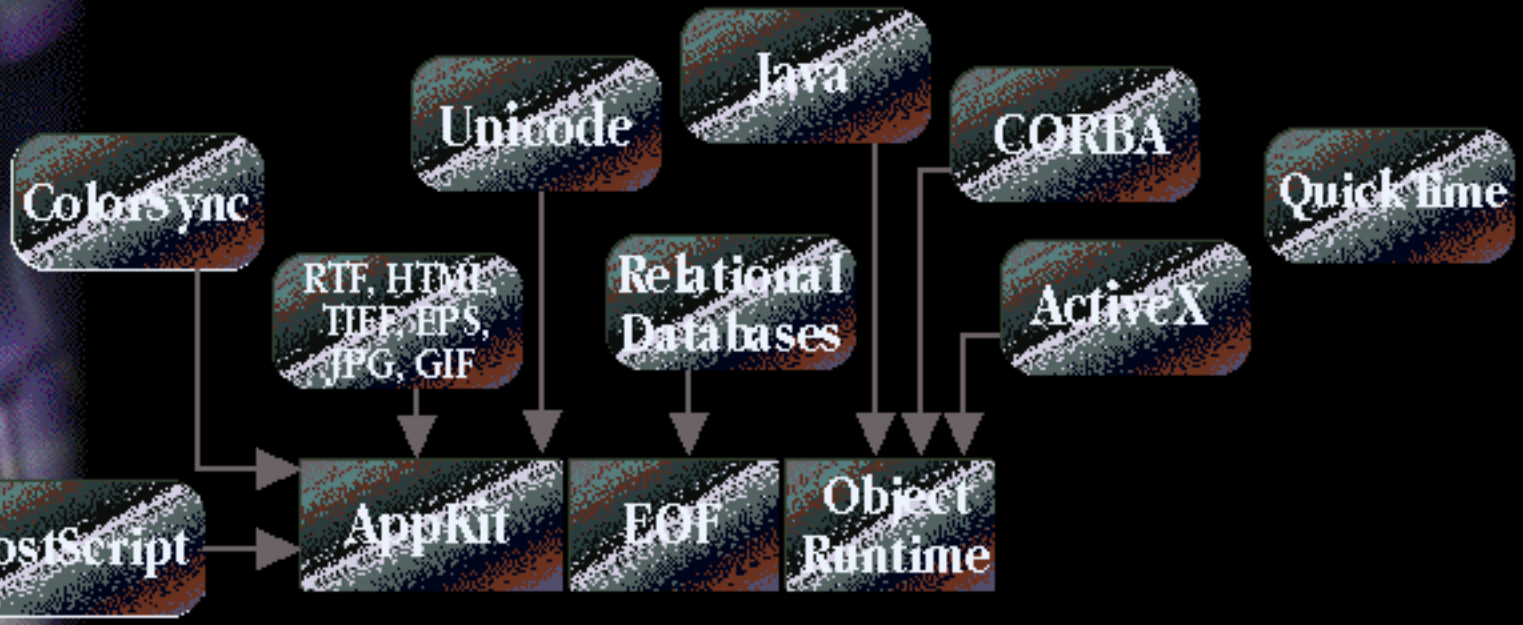

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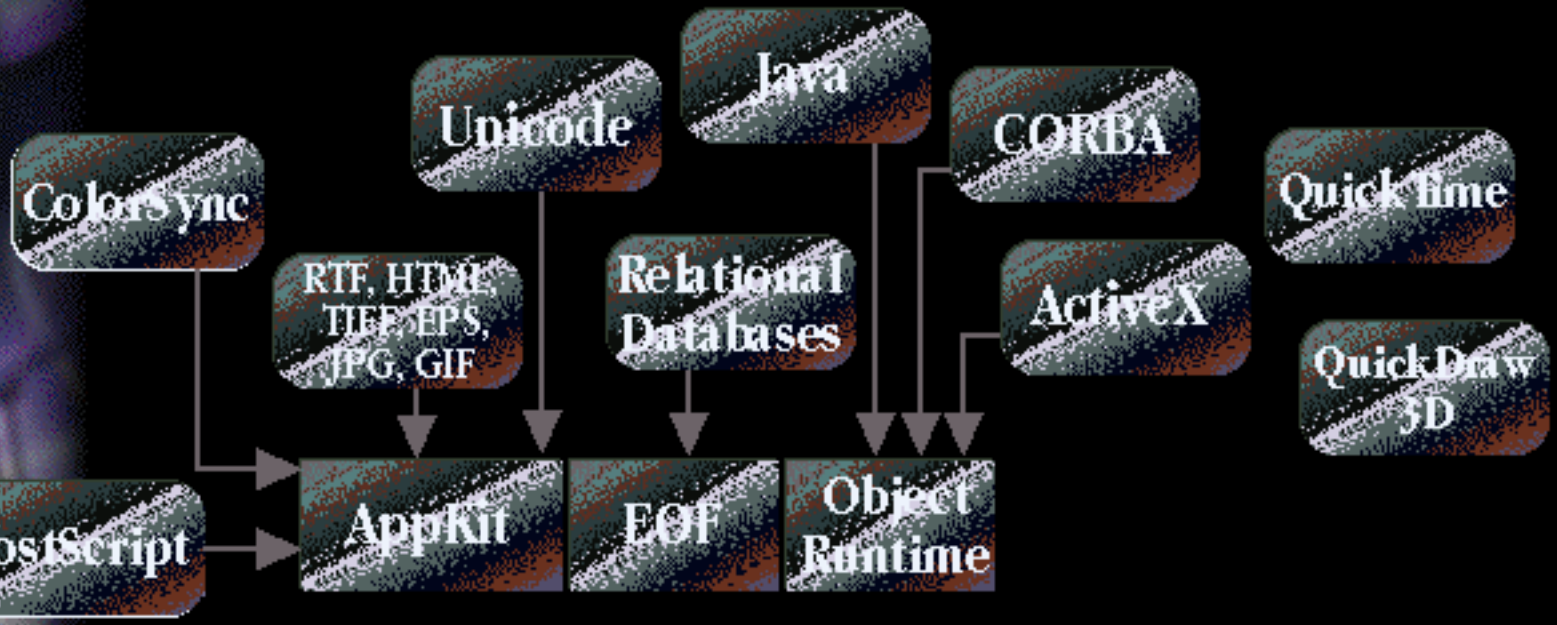

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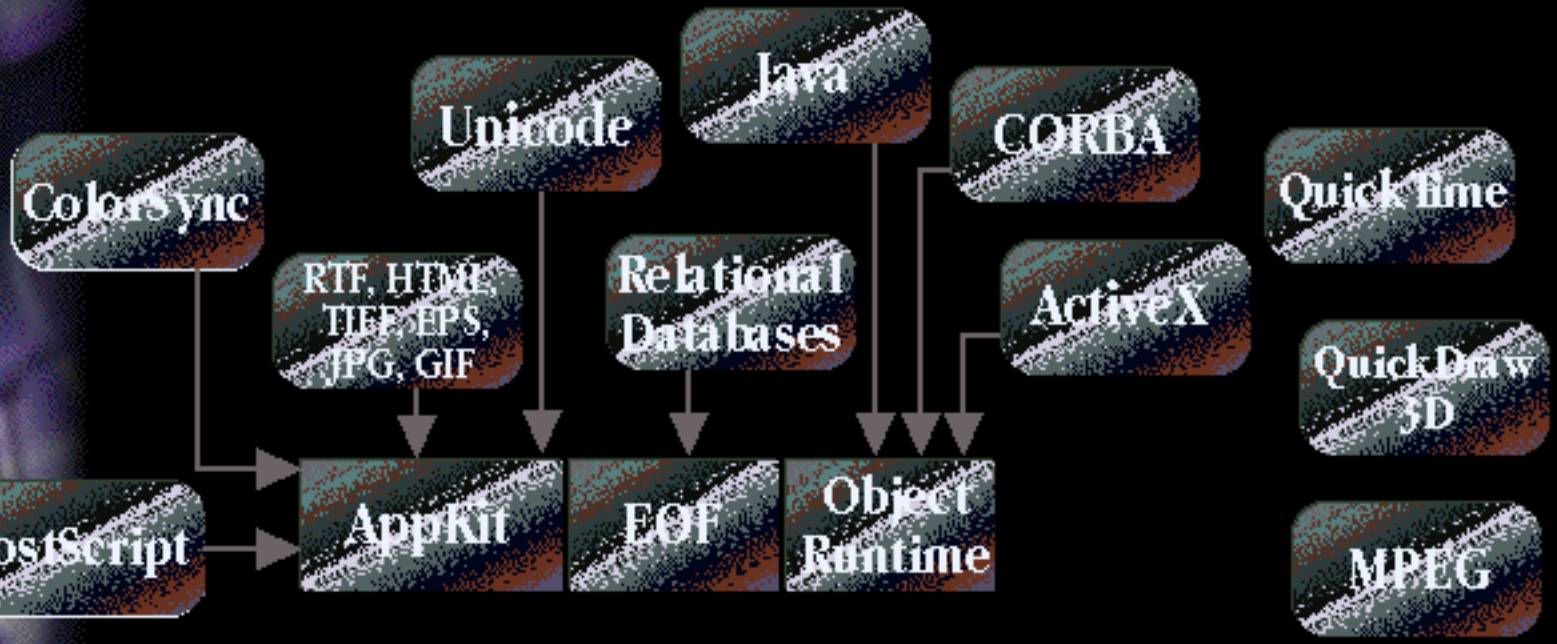

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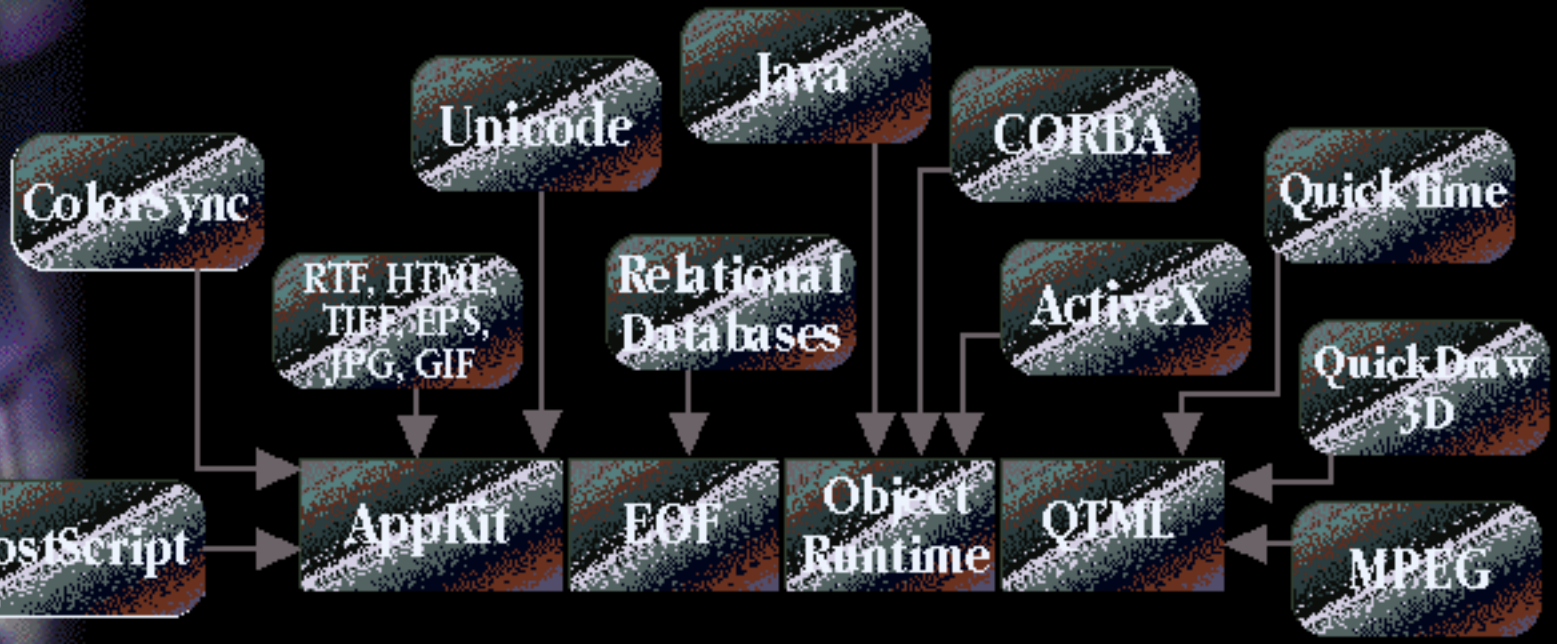

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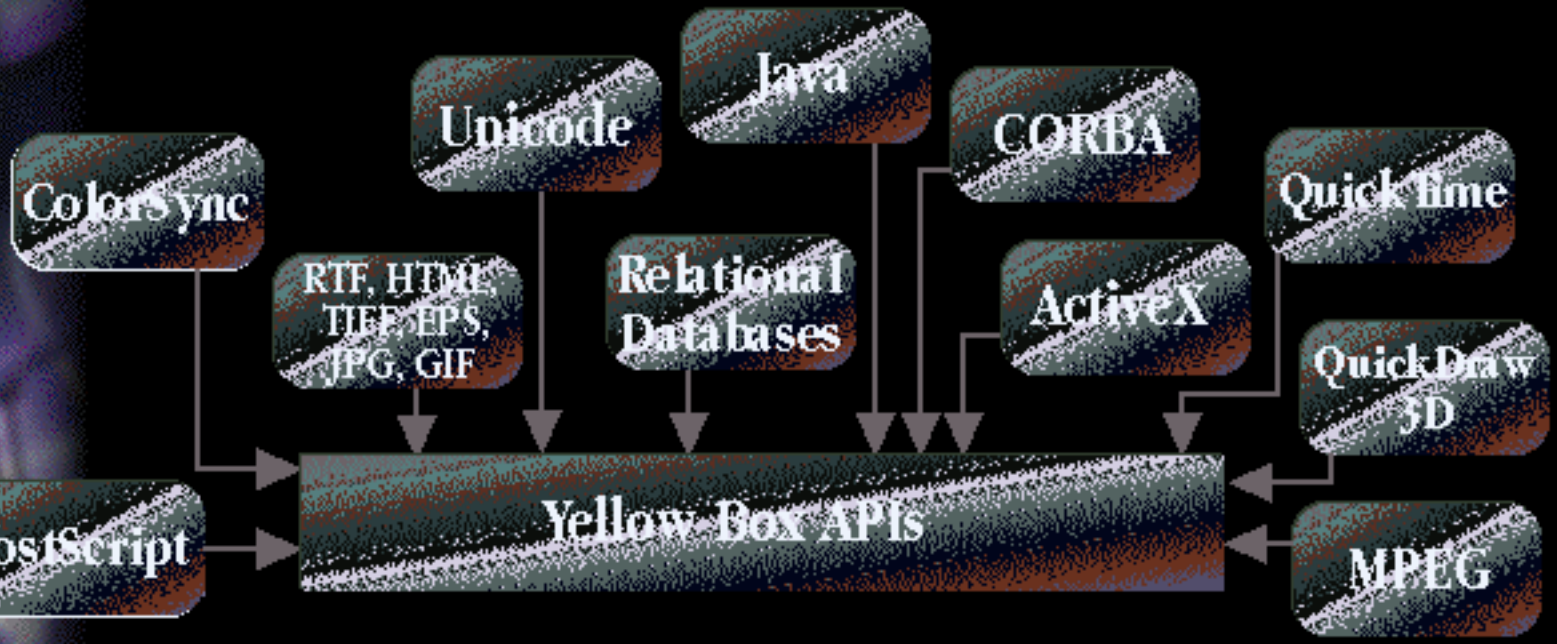

Enable "ComponentWare"

Allow developers to leverage each other

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- Interface Builder palettes allows drag and drop application "parts"
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- Enable custom "plug-in" architectures for applications (e.g., JavaBundle)

Make Apps Work Well Together

- Rich set of industry standard datatypes

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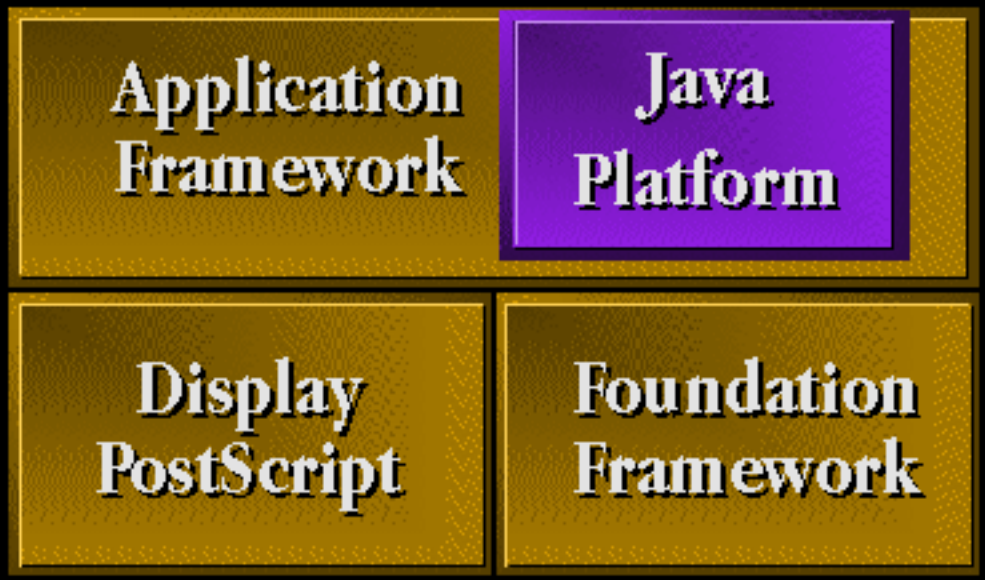
- **Scriptability "built-in"**

Yellow Box Functional Overview



Application Kit

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  - More info:
    "Intro to OpenStep Application Framework", Thursday, 1:50, Hall 1

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  - More info:
    "Rhapsody Text System and Localization"
    Wednesday, 4:30, A-1

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  - File I/O, threads, tasks, etc.

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  - File I/O, threads, tasks, etc.
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- Loadable component packaging
- Distributed objects

Foundation Kit

- More info:
  "Intro to OpenStep Foundation Framework"
  Wednesday, 4:30, Hall 1

Display PostScript WindowServer

- Client/Server graphics server

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Display PostScript WindowServer

- Client/Server graphics server
- PostScript imaging model
- Compositing used as generalized Blit()
- EPS is structured graphics standard
- Any NSView can print, fax, or generate EPS

Graphics and Imaging

- **More info:**
  - "Imaging Under Rhapsody"
    Wednesday, 5:50, Hall 1
  - "Printing Under Rhapsody"
    Thursday, 3:10, Hall 1

Java Application Integration

- Fully support 100% Pure Java code

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Java Application Integration

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- High performance VM and AWT/JFC implementation
- Native Yellow Box APIs will also be made available in Java
  - AppKit, Foundation, …
  - Write once, run on any Yellow platform (Mac OS, Windows NT/95, Rhapsody, ???)

Java Application Integration

- More info:
  “Building Java-based Applications for Rhapsody”
  Friday, 3:10, Hall A-2

Java and Object Runtimes

- **More info:**
  - "Uncommon Object Model: The Rhapsody Runtime" Thursday, 9:50, Room C
  - "Object-Oriented Programming and Languages" Thursday, 11:10, Room C

Enterprise Objects Framework

- Relational database to Object mapping

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- Database independent

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- Scales to multi-tier client/server model

Enterprise Objects Framework

- Relational database to Object mapping
- Database independent
- Scales to multi-tier client/server model
- Flexible transaction management

Enterprise Objects Framework

- More info:
  "Enterprise Object Frameworks Overview"
  Friday, 10:50, Hall A-1

Comparisons

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Four major application platforms

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Four major application platforms

- Mac Toolbox
- WIN32/MFC
- JavaSoft's "Java Platform"
- Apple's "Yellow Box Platform"

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Microsoft's WIN32/MFC

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- Not cross-platform
- Procedural, low-level APIs
- Objects are an afterthought
- Java viewed as a language only
- Built-in datatypes not cross platform (BMP, GDI Metafiles, character encoding, etc.)

JavaSoft's Java Platform

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- Object APIs only

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- Cross-platform, processor independent

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- Wide variety of cross-platform datatypes
- Ready for shrinkwrap today
- Great basis for future innovation

Opportunities

Use the best technology for the job:

Opportunities

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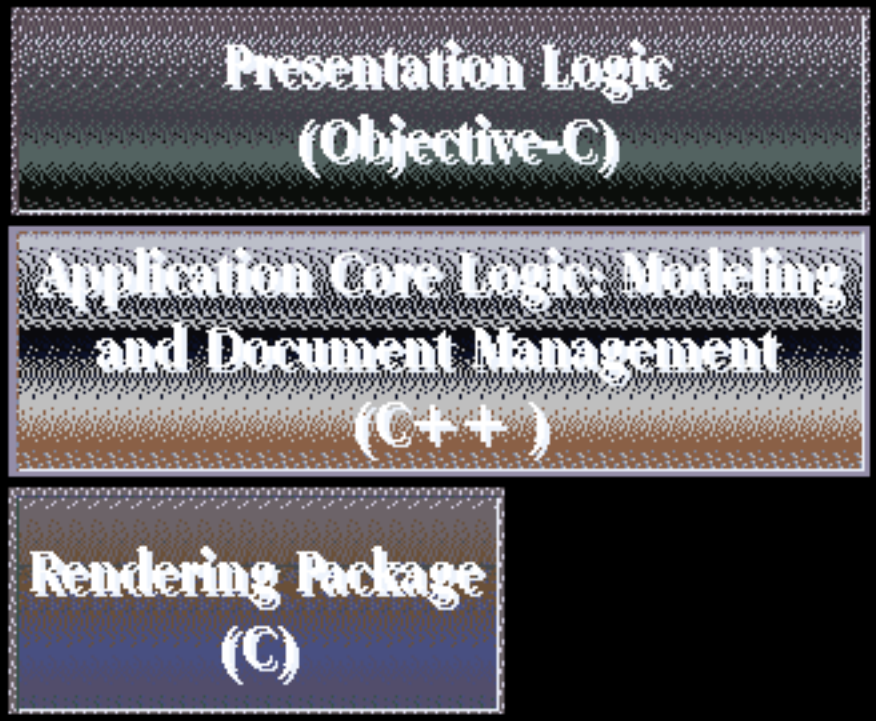

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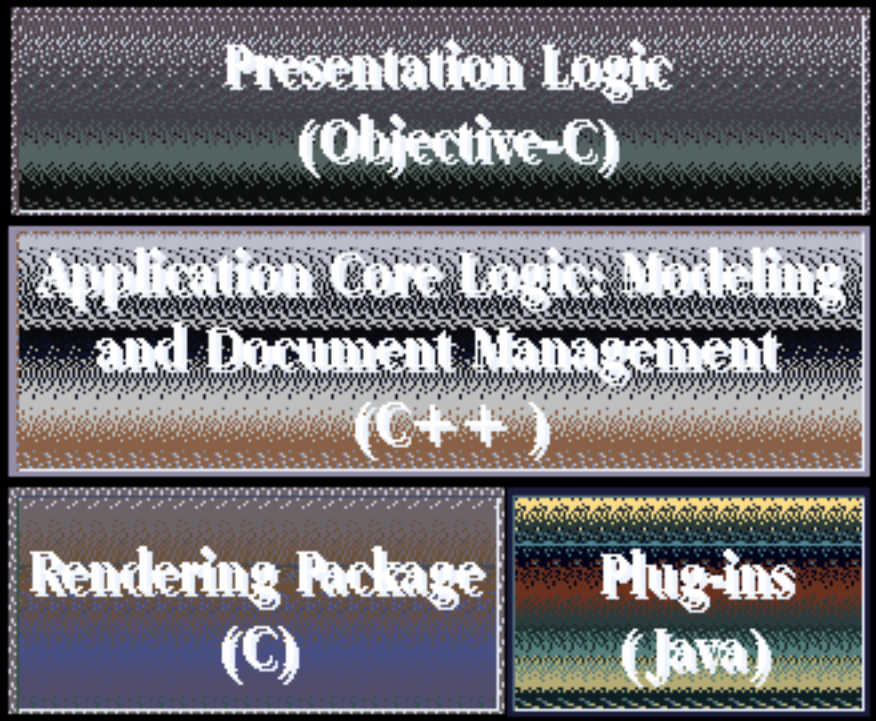

Summary…

- Yellow Box is a robust, cross-platform, application substrate
- Ready for shrinkwrap today


Q&A


Worldwide
Developers
Conference