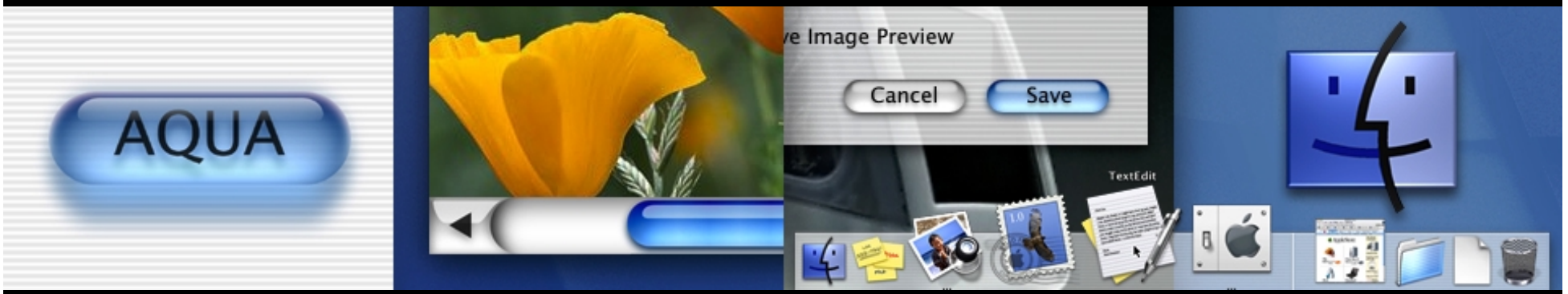
Session 411

WebObjects: Integrating Client-side Technologies



Matthew Firlik
Senior Systems Engineer, Apple iServices

Introduction

Browsers past, present, and future…

- Advancements and enhancements in browsers and browser technologies result in more possibilities for developers and users
- Dynamic applications coupled with truly dynamic interfaces lead to dynamic experiences

"WebObjects can be used for much more than just for generating HTML."

Client-Side Components.

Are they worth the trouble to use?

- Client-side components are as useful as your control over the application environment and the browsers using them
- Mitigate the risk of using client-side technologies with clean implementations of functionality in your application/interfaces

What You'll Learn

Concepts, ideas, and implementations

- Information on the use and integration of WebObjects and key client-side technologies:
  - JavaScript and DHTML
  - QuickTime and QuickTime Streaming
  - PDF, Flash, WAP, and JavaClient

JavaScript

Client-side scripting

- Powerful language for dynamically manipulating and enhancing interfaces:
  - HTML elements
  - Document and window events
  - Form interactions

JavaScript…

Real-world uses and possibilities

- More than just “zany” HTML effects, there are many practical and functional uses for JavaScript:
  - Image and text fly-overs
  - Window and message management
  - Form-field validations and submissions

JavaScript…

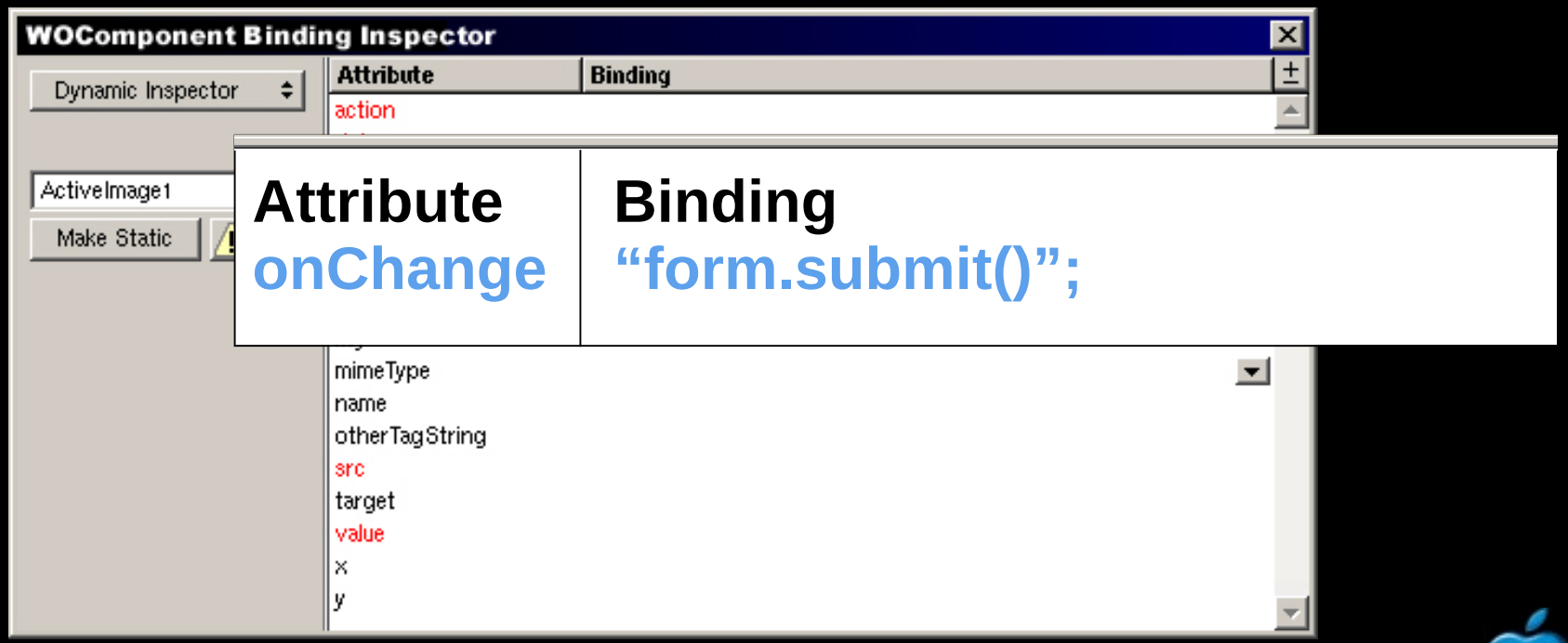
Already in WebObjects

- Utilize the pre-built components in the WOExtentions framework:
  - JSAlertPanel
  - JSConfirmPanel
  - JSImageFlyover
  - JSTextFlyover
  - JSModalWindow
  - JSValidatedField

JavaScript: Code Style

Simple additions for complex situations

- For form enhancements, just add JavaScript to the bindings of a dynamic element:



JavaScript: Code Style…

Creating your own re-usable elements

- To create your own JavaScript components, utilize the pre-built dynamic elements:
  - Embed your own JavaScript with WOJavaScript
  - Access resources and actions using WOActionURLs and WOResourceURLs
  - Access and store content using WOComponentContent and WOHiddenFields

DHTML

Dynamic HTML

- The combined power of a number of functionalities…
  - Cascading style sheets
  - Document object model
  - Client-side scripting (JavaScript)

DHTML

Dynamic HTML

- The combined power of a number of functionalities… for powerful results:
  - Layering of HTML elements
  - Global formats and changes
  - Cross-browser special effects

DHTML: Code Style

What makes up a DHTML element

- DHTML elements are described by a DIV tag, and have a number of attributes:
  - Use an absolute or contrived location within the HTML window with the POSITION tag
  - Set the visible status of the layer with the VISIBILITY tag
  - Define the size, location, depth, and other formatting attributes with the STYLE tag

DHTML: Code Style…

What makes up a DHTML element

```
<DIV    ID = “myLayer”;
        POSITION = “absolute”;
        VISIBILITY = “visible”;
        STYLE = “height=100; width=100;
                    top=10; left = 10; z-index = 3;”;>

    Your HTML and content goes here.

</DIV>
```

QuickTime

Apple's own media technology

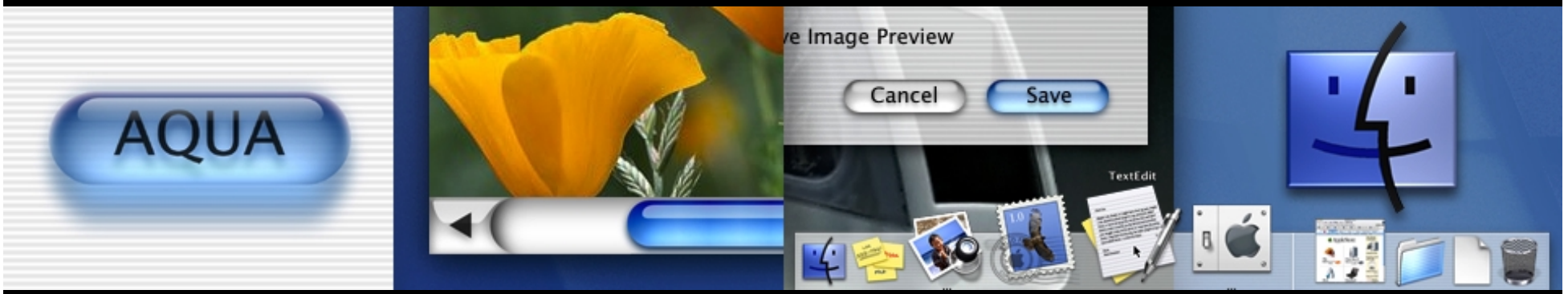
- Apple's complete technology for handling video, sound, animation, graphics … you name it!
  - Add the power of great multimedia content with that of dynamic content and selection …

QuickTime …

Pre-built components with VR support

- Use the WOQuicktime component to quickly configure and implement any QuickTime format, using the same API format
- Supports QuickTime VR and “hot spots” (by using an action and a selection)

DEMO



Ron Lue-Sang
WebObjects Quality Engineer

SMIL

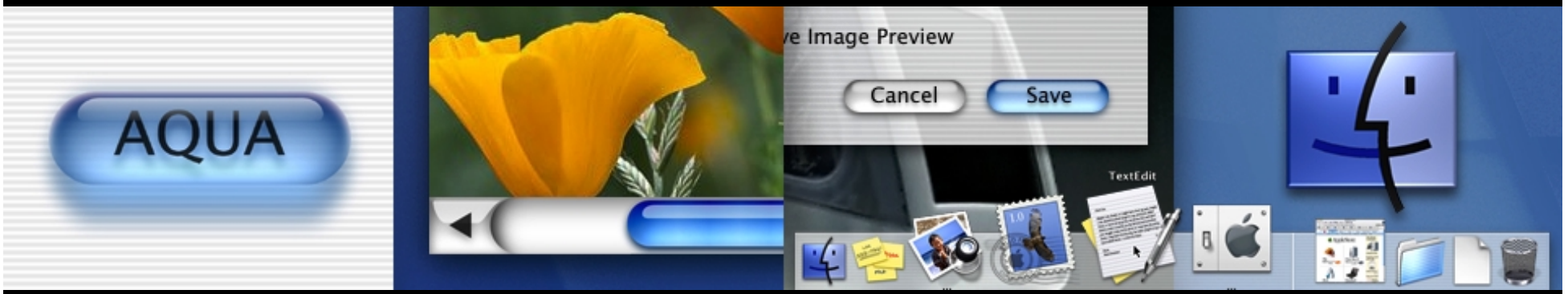
Synchronized Multimedia Integration Language

- A markup language (like HTML) designed to solve the problems of coordinating and synchronizing the display of a variety of media
- Allows the easy implementation of sophisticated time-based multimedia content
- SMIL is written in XML v1.0 document format

SMIL: Code Style

```
<smil>
    <head>
        <layout>
            <region id="r" top="20" left="20" />
        </layout>
    </head>
    <body>
        <seq>
            <img region="r" src="stuff/" dur="10s" />
        </seq>
    </body>
</smil>
```

DEMO



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PDF/Flash/WAP

The latest in client-side interfaces

- Dynamically created interfaces with rich features and interactions
- Many methods and possibilities for creating and managing…

PDF

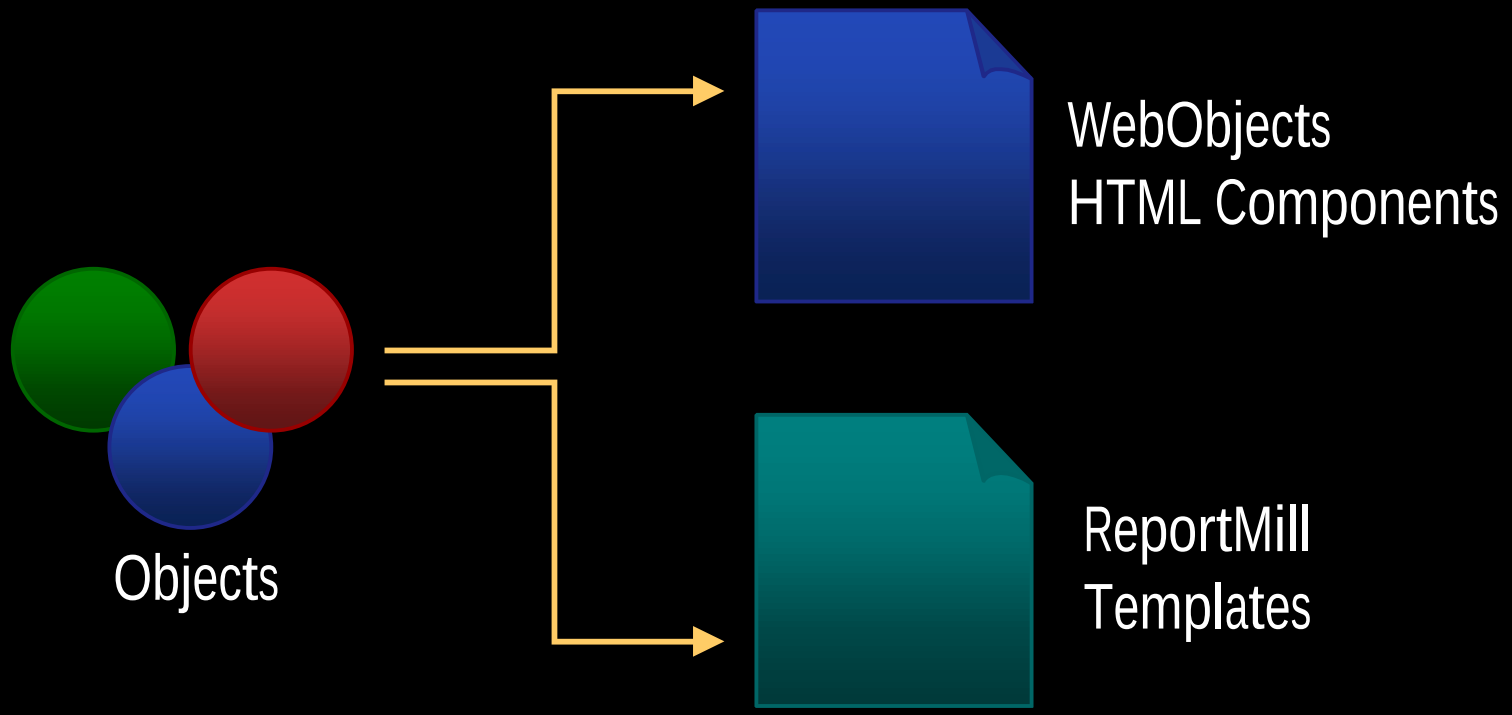
Adobe's Portable Document Format

- Cross-platform document format, perfect for distribution of high-impact content
- Embed URLs into PDFs to create interactive and self-serviceable documents

PDF…

Using ReportMill Technologies

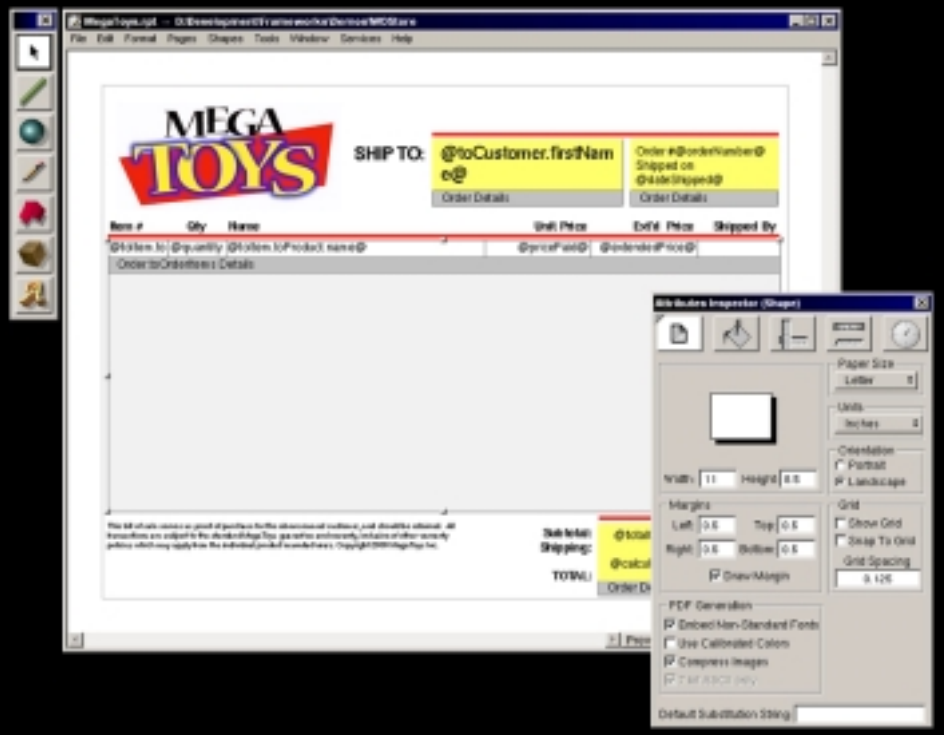
- ReportMill technologies make the creation and management of PDF documents as easy as HTML



PDF…

Using ReportMill Technologies

- ReportMill layout tool uses the same concepts as WOBuilder to design templates…



Create reports, listings, charts and graphs from the same application logic and data as your HTML app!

Flash

Macromedia's animation, effects, and interface format

- Flexible and extensible format for everything from splash animations to interactive menus and displays
- Use the Flash APIs to pass dynamic content for a truly "on-the-fly" interface
- ReportMill generates Flash too!

WAP

Wireless Application Protocol

- The industry standard for applications on mobile devices (such as cell phones)
- Because of their size, these devices require optimized interfaces and quick responses… just what WebObjects is known for!
- WAPObjects framework already implemented!

Useful Tactics…

How to make stuff happen

- Handy methods and procedures to have around
  - Unique-Naming methods for components
  - Synchronizing bindings (or not)
  - invokeAction method
  - WOResourceManager

Go to Session #416—Reusable Components!

For More Information

http://www.apple.com/webobjects

Visit the WebObjects lab downstairs!
Everyday from 11:00 a.m.–2:00 p.m.

Try out your WebObjects 4.5 Evaluation CD!

WebObjects Community BOF
Wed., 6:30 p.m.–8:00 p.m.

Who to Contact

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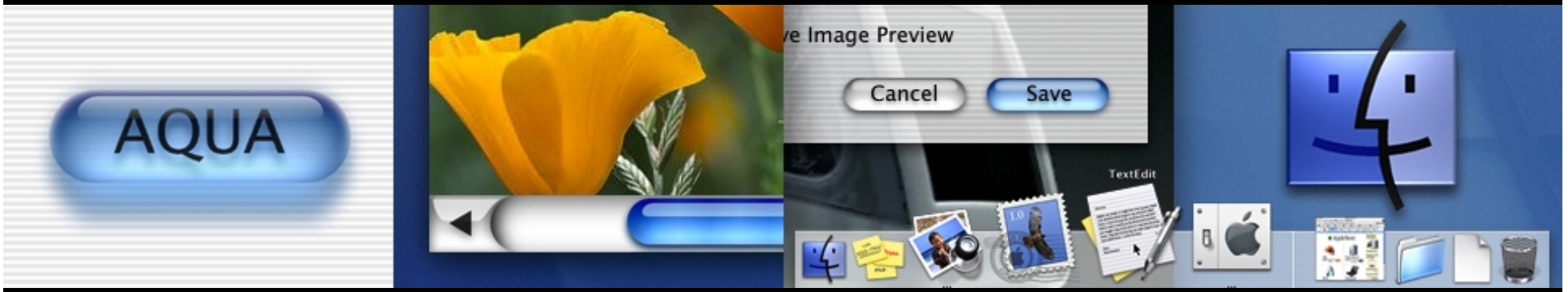
DEMO



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Systems Engineer

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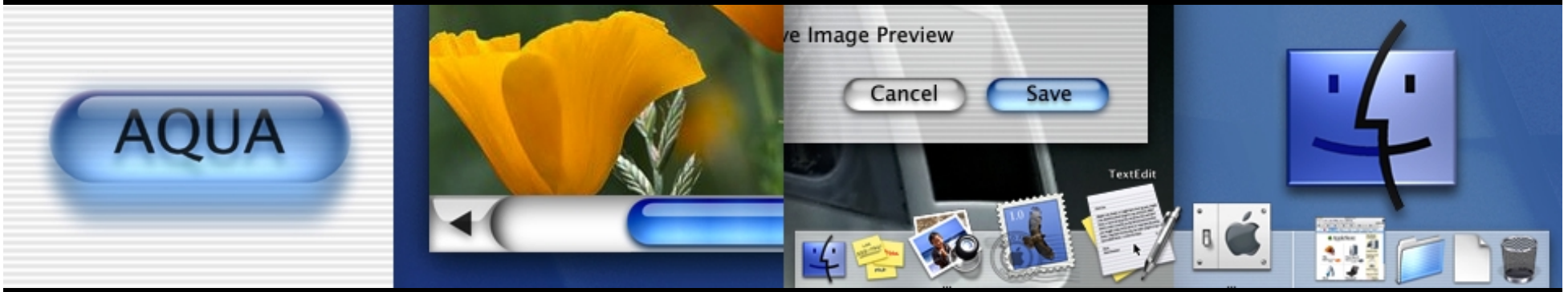
Q&A



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WWDC

Worldwide Developers Conference 2000

Think different.