

Welcome

To Advance through Presentation
Use Page Up and Page Down Keys



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QuickTime Interactivity

Tom Dowdy

QuickTime Engineer

What Is Interactivity?



- User
- Movies
- Your application
- Browser
- QuickTime Player



What Are Wired Actions?

- First available in QuickTime 3.0
- Extended and enhanced in 4.0
- A way to interact with movies

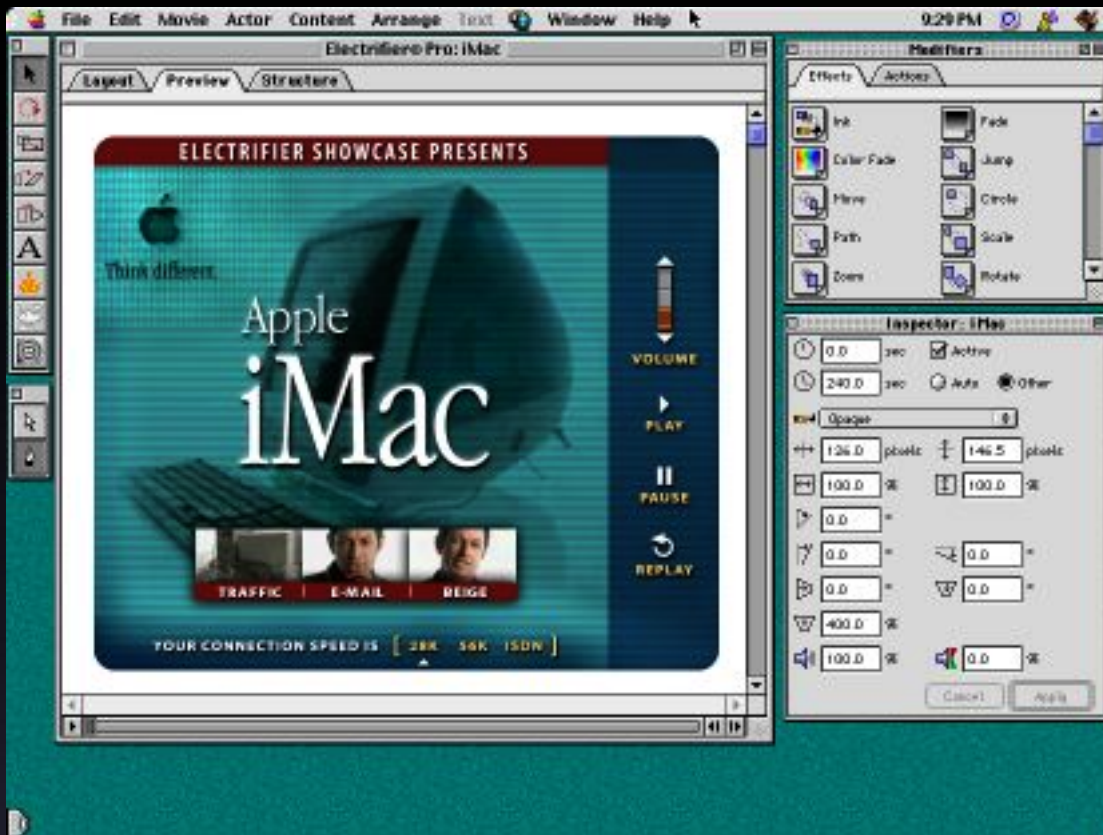


Creating Wired Actions

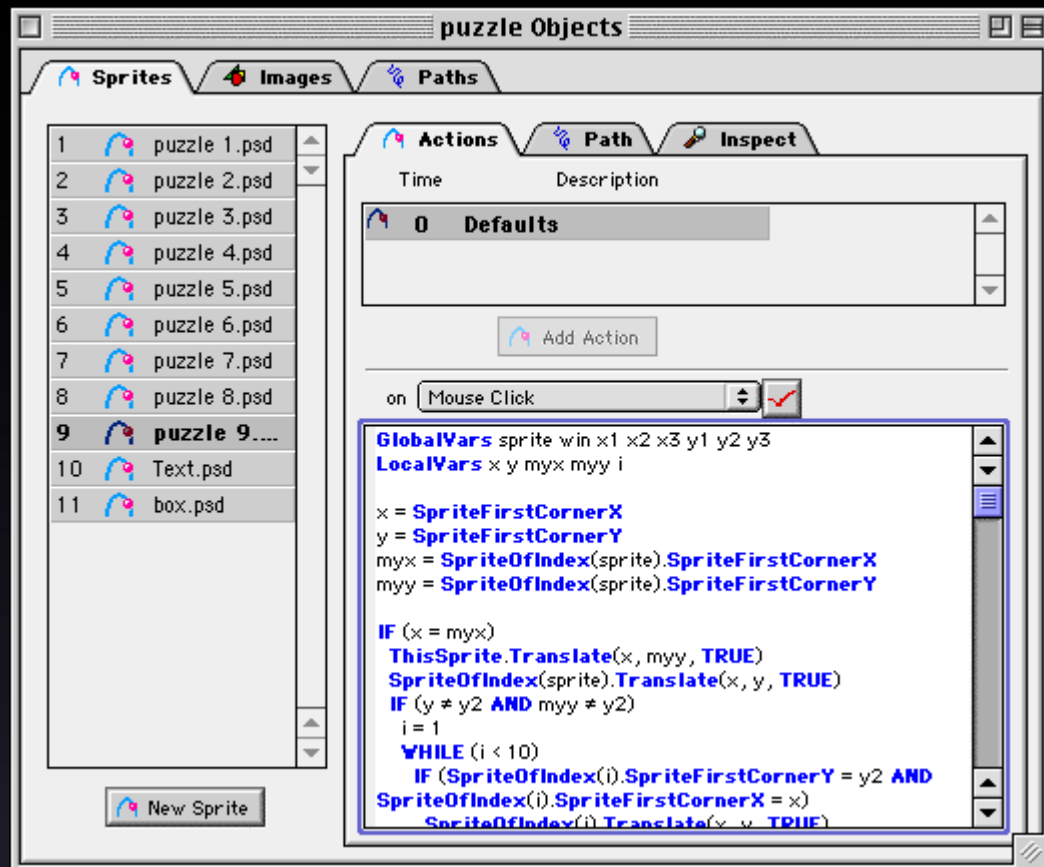
- Electrifier
- LiveStage
- Squamish Media Group



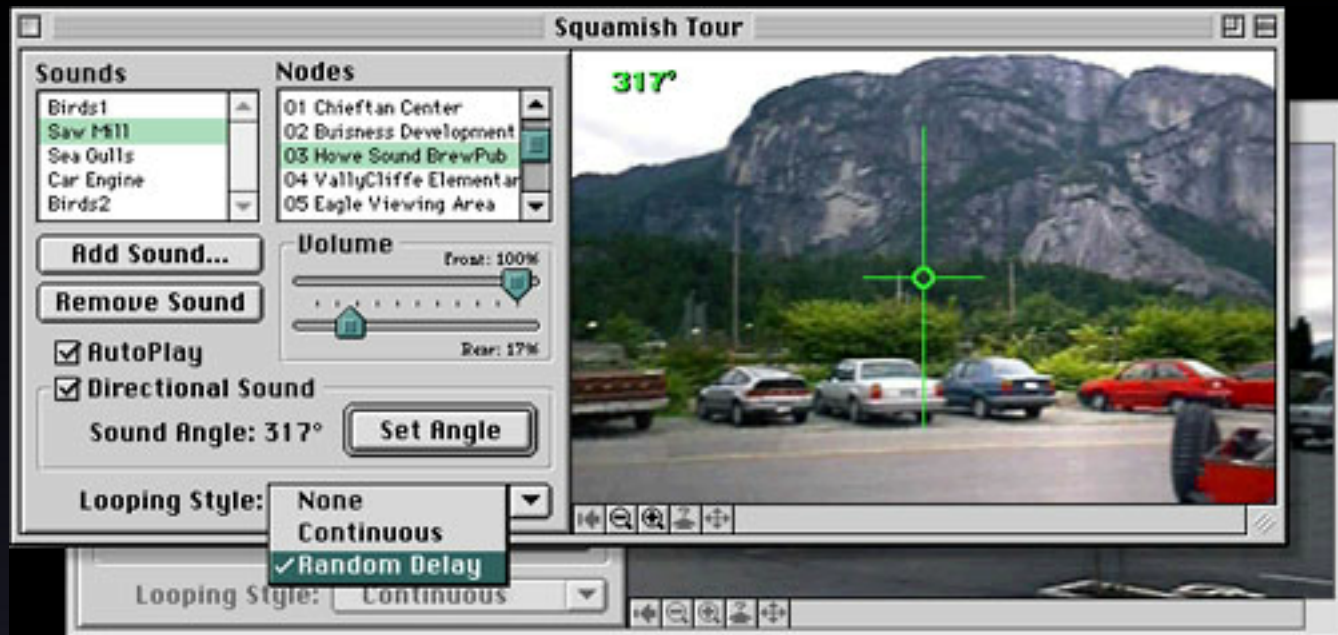
Electrifier



LiveStage



Squamish Media Group





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QuickTime Interactivity

Sean Allen

QuickTime Engineer

VR, Text, Flash

- Can now used wired actions
- Hyper Text runs
- VR Hot Spots
- Extended Flash for buttons and frames



Wired Flash

- Interpret Flash actions on fly
- Extend file format to add QuickTime Actions
- Allow data compression of Flash files





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Hyper text and Flash

New Actions

- Browser integration
- Cursor support
- Status string, URL linking



New Operands

- GMT Time and Date
- TickCount
- AvailableMovieTime
- ConnectionSpeed
- RegisteredForPro
- QuickTime Version
- ComponentVersion
- String Variables





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GMT, Speed

Wired Action Communication

- Another Movie
- Themselves



Wired Action Navigation

- Open/Replace in QuickTime Player
- Open/Replace in another browser frame
- Open/Replace in another browser window



New Sprite Features

- Button behaviors
 - Four states
 - Image per state
 - Cursor to use
 - URL to display
- Runtime Sprites
- Referenced Images



QuickTime Player

- Channel Subscriptions

AddChannelSubscription

RemoveChannel Subscription





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Put it all together

Wired Actions and You

- Your app can respond to actions

MovieExecuteWiredActions

AddMovieExecuteWired ActionsProc

RemoveMovieExecuteWired ActionsProc



What Your App Must Do

- Resolve External Movie Targets

DebugStr

ApplicationNumberAndString





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QuickTime VR

Ken Doyle

Bryce Wolfson

New Features of QTVR 2.2

- New Panorama Rendering Engine
- Horizontal Back Buffer
- Wired Actions



New Rendering Engine

- Faster Panning Speed
- Higher Quality in General
- Much Higher Quality at Larger Fields Of View





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Horizontal Back Buffer

- Panorama Oriented Horizontally
- New Flag: kQTVRHorizontalCylinder
returned by QTVRGetBackBufferSettings
- Changes to Back Buffer Access



Back Buffer Access

- No Need to Rotate Content Before Drawing to Back Buffer
- Old Method Still Works
- Access Flag: `kQTVRBackBufferHorizontal`

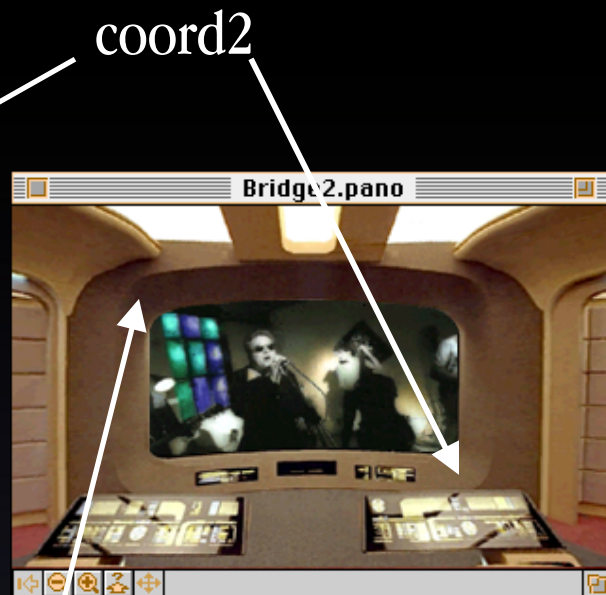
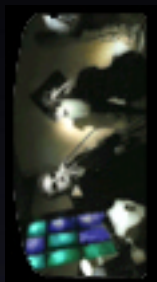




Clip Mask

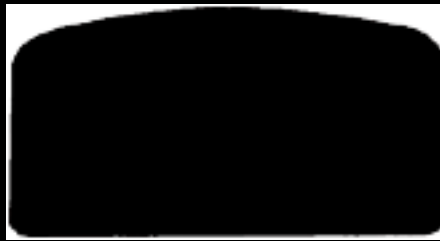


Rotation
Matrix



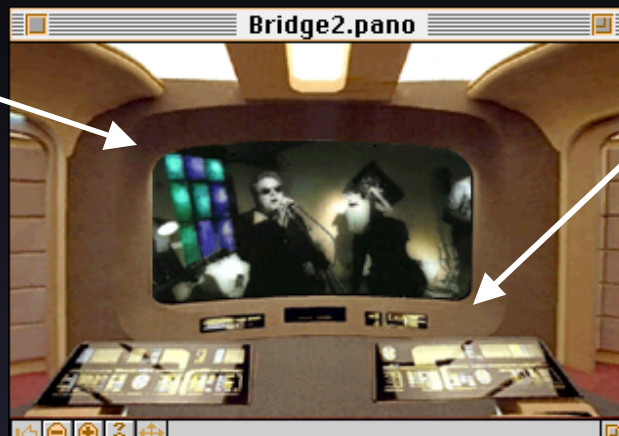


Clip Mask



coord1

coord2



Coordinate System

- QTVRAnglesToCoord and QTVRCoordToAngles are unaffected
- Pan Angles (and Coordinates) still use Mathematical Right to Left Convention



QTVR Sprite Actions

- GoToNodeID
- SetPan
- SetTilt
- SetFOV
- ShowDefaultView



Wired QTVR Movies

- Wired Hot Spots
- Per Node Actions



QTVR Hotspot Evolution

- Panoramas with links and blobs
- Objects
- URLs in HTML
- Native URLs
- And Now: Anything You Want



Wired Hot Spots

- `MouseClicked`
- `MouseClickedEnd`
- `MouseClickedEndTrigger`
- `MouseEnter`
- `MouseExit`



Wired Nodes

- FrameLoaded
- Idle



Examples of Usage

- Node To Node Transitions
- Preplanned “Tour” of VR Scene





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Think About

- Make your application a good host for wired content
- QuickTime Interactivity is a delivery mechanism for your content
- QuickTime as UI elements in your Hybrid application
 - Games
 - Help Systems



More QuickTime?

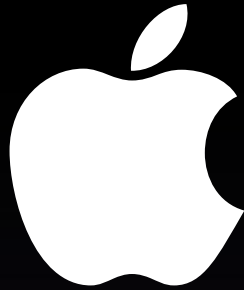
QuickTime for Java

Hall A2
Tues., 4:00 PM

QuickTime Feedback Forum

Hall J2
Tues., 5:30 PM





Think different.TM



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