

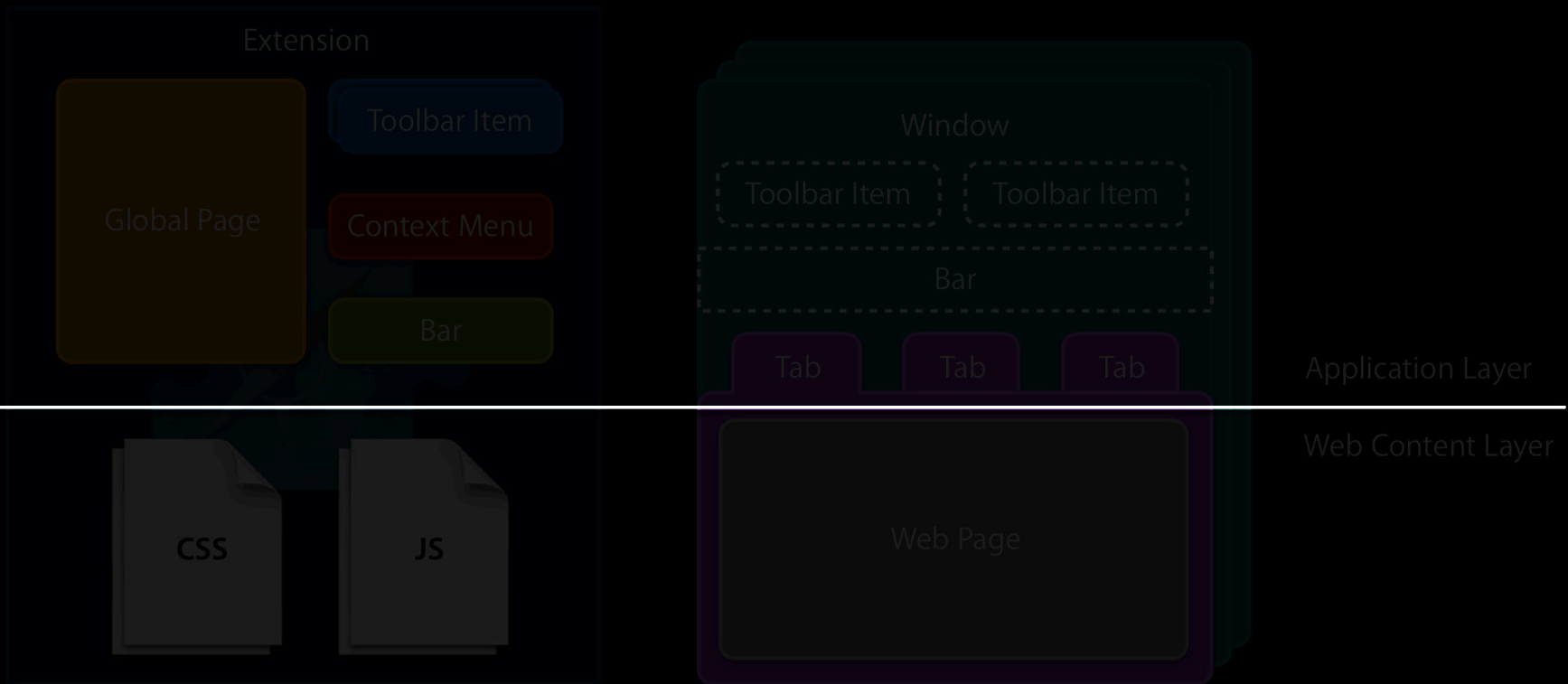


# Creating Extensions for Safari

## Part 2

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Safari and WebKit Engineer



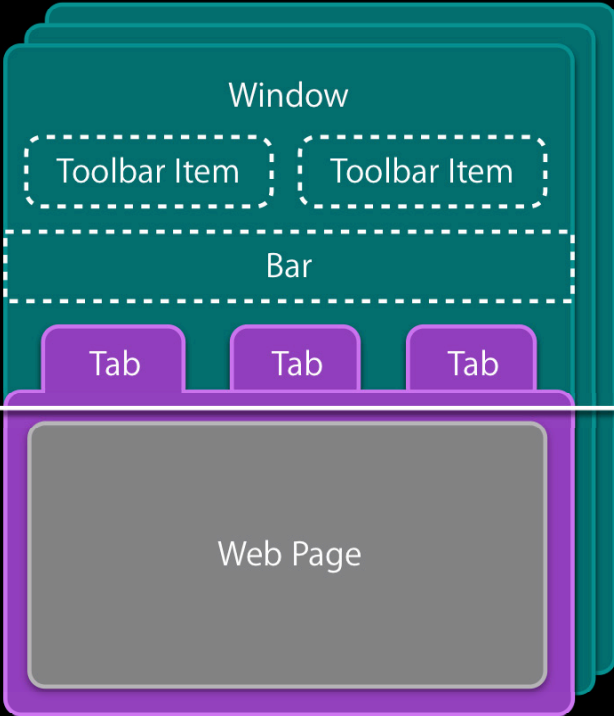
# What You'll Learn

- Modify web pages' behavior and appearance
- Add items to Safari's context menus
- Publish new versions of your extension

# Modifying Web Pages

# Demo

Vimeo Lights Out



Application Layer

Web Content Layer



# Content Style Sheets



- Similar to Safari's user style sheet preference
  - Use `!important` to override page rules
- Can have more than one
- Can be applied to specific pages



# Content Scripts



- Run at “start” or “end” of page load
- Have access to content-only extension APIs
  - Uses `safari` namespace object
- Can have more than one
- Can be applied to specific pages

# Modifying Specific Pages

- Website access
- Whitelist and blacklist

<http://www.apple.com/safari/whats-new.html>

http://www.apple.com/safari/whats-new.html  
scheme

http://www.apple.com/safari/whats-new.html  
scheme host

`http://www.apple.com/safari/whats-new.html`

scheme                      host                      path

# Website Access

- Controls webpage modification and cross-site XHR
- Based on domain patterns
  - `www.apple.com`
  - `apple.com`
  - `*.apple.com`
- “Include Secure Pages” checkbox

# Whitelist and Blacklist

- Controls content injection
- Based on URL patterns



# URL Patterns

`http://www.apple.com/safari/whats-new.html`

# URL Patterns

`http://*.apple.com/safari/whats-new.html`

`http://www.apple.com/safari/whats-new.html`

`http://apple.com/safari/whats-new.html`

`http://other.subdomains.apple.com/safari/whats-new.html`

# URL Patterns

`http://www.apple.com/*/whats-new.html`

`http://www.apple.com/safari/whats-new.html`

`http://www.apple.com/itunes/whats-new.html`

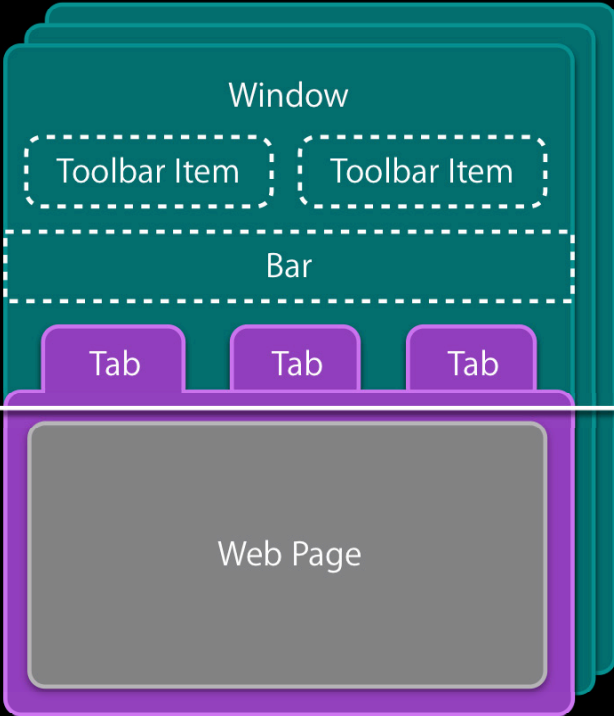
`http://www.apple.com/mac/osx/whats-new.html`

# URL Patterns

`http://*.apple.com/*`

# Demo

Building Vimeo Lights Out



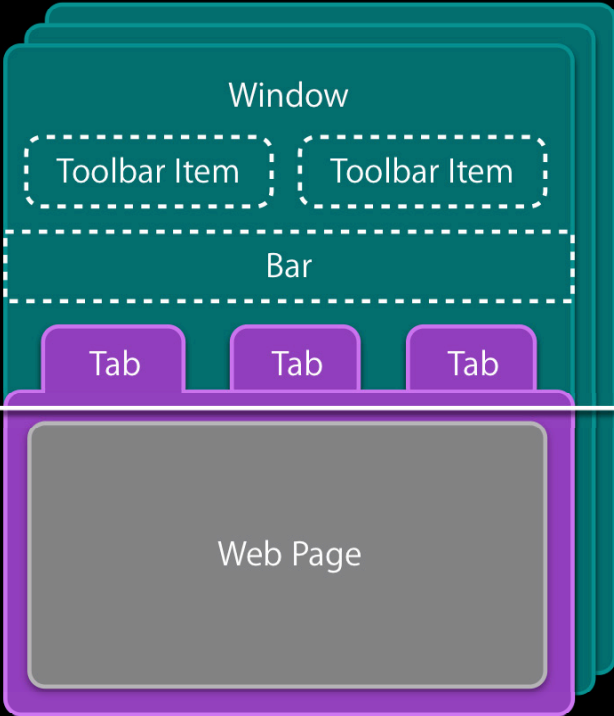
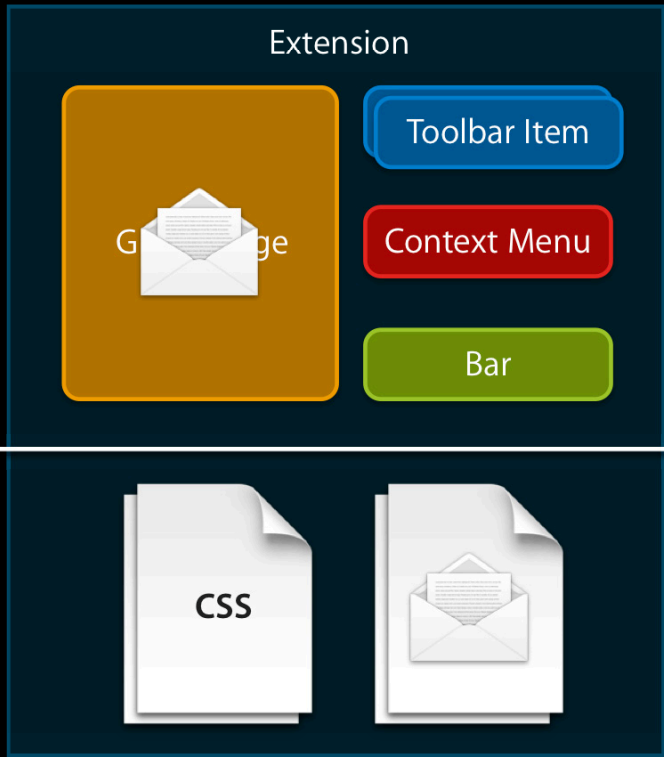
Application Layer

Web Content Layer

# Messages



- Two parts: name and optional data
  - “get-setting” “opacity”
  - “show-bar”
  - “send-xhr” { url: “http://example.com/foo.json”, method: “GET” }
- Sent via proxy objects
  - Content to application  
`safari.self.tab.dispatchMessage(name, data)`
  - Application to content  
`safari.application.activeBrowserWindow.activeTab.page.dispatchMessage(name, data)`



Application Layer

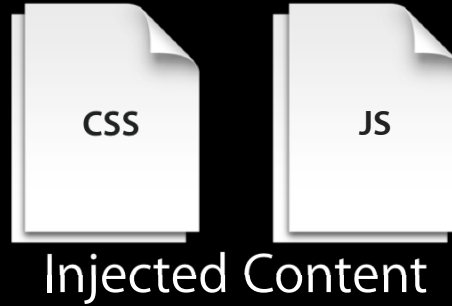
Web Content Layer



# Demo

Adding preferences

# Recap



`http://*.apple.com/*`  
URL Patterns



# Adding Context Menu Items

Demo

“Tweet This Text”

# Context Menus in Safari



Open Link  
Open Link in New Window  
Download Linked File  
Copy Link  
Inspect Element



Open Link in New Window  
Open Link in New Tab  
Download Linked File  
Download Linked File As...  
Add Link to Bookmarks...  
Copy Link

# Context Menus in Extensions



Open Link  
Open Link in New Window  
Download Linked File  
Copy Link  
Inspect Element



Open Link in New Window  
Open Link in New Tab  
Download Linked File  
Download Linked File As...  
Add Link to Bookmarks...  
Copy Link



Open Link in New Window  
Open Link in New Tab  
Download Linked File  
Download Linked File As...  
Add Link to Bookmarks...  
Copy Link  
Tweet This Text

# Context Menu Items

- Identifier
- Title
- Command
- Disabled (hidden)

# contextmenu Event

- Sent to tab, bubbles to window and application
- `event.contextMenu`
  - `appendContextMenuItem(id, title, command)`
  - `insertContextMenuItem(index, id, title, command)`
  - `contextMenuItems` array
- Or specify in Extension Builder



# validate/command Events

- Just like toolbar items
  - `validate`: disable (hide) items
  - `command`: perform selected action

# Putting It in Context

## What was clicked?

- Content

- “contextmenu” event in WebKit

```
safari.self.tab.setContextMenuEventUserInfo(event, userInfo)
```

- Application

- contextmenu/validate/command events

```
event.userInfo
```

# Demo

Building “Tweet This Text”

# Recap

- `contextmenu` event (WebKit): provide context
- `contextmenu` event (application), or Extension Builder: add items
- `validate` event: disable items
- `command` event: perform selected action


# Publishing Updates

Dan's Website

http://www.danswebsite.com

Apple Yahoo! Google

Welcome Photos **Blog** Movie Podcast About Me




## Welcome to my Blog

Welcome to the Winter Wonderland '10 Tour! Keep tabs on Turner, J.B., and me as we make our way across British Columbia's finest slopes.

[RSS](#) [Subscribe](#)

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### Fresh powder SnowBoarder

Monday, January 11, 2010

After a long drive we arrived at the resort and found a perfect timing for our trip. The snow was perfect and the powder was much better than we expected. [read more...](#)

---




### On the slopes

Saturday, January 9, 2010

After a great night in Whistler Village, we woke up to a beautiful sight: fresh powder! We quickly slammed some coffee, got [read more...](#)

---



### Day of longboarding

Friday, Jan 8, 2010


We flew into Vancouver, then rented a car for the two-hour drive to Whistler, the first stop on the Winter Wonderland '05 Tour. The [read more...](#)



Extensions

General Appearance Bookmarks Tabs RSS AutoFill Security Extensions Advanced


Extensions are created by third-party developers to customize and enhance your web experience. OFF  ON


 Twitter

### Extension Updates

Updates are available for one or more of your extensions. To install an update click its Install button, or click Install All Updates.

Install Updates Automatically Install All Updates

 **Twitter**  
Twitter  
Version: 3.0 Beta  
Install

 Updates 1



# Update Manifest

- XML file hosted on your web server
- List of all your extensions
  - Extension bundle identifier (`com.example.extension`)
  - Developer certificate identifier (`A1B2C3D4E5`)
  - Bundle version (`100.3.75`)
  - Display version (`3.0 Beta with Awesomesauce`)
  - URL (`http://example.com/extension-3.0ba.safariextz`)
- Put manifest URL in Extension Builder

# Demo

Cabel Sasser  
Panic

# Summary

- Modify web pages
  - Content style sheets and scripts
- Add context menu items
  - contextmenu/validate/command events
- Publish new versions of your extension
  - Update manifest

# More Information

**Vicki Murley**

Safari Technologies Evangelist

[vicki@apple.com](mailto:vicki@apple.com)

**Safari Dev Center**

<http://developer.apple.com/safari>

**Safari Extensions Documentation**

<http://developer.apple.com/wwdc>

**Apple Developer Forums**

<http://devforums.apple.com>

# Related Sessions

Getting the Most Out of Safari Integrated Developer Tools

Marina  
Wednesday 11:30AM

# Labs

Safari Extensions Lab	Internet and Web Lab A Wednesday 2:00PM
WebKit Lab	Internet and Web Lab B Wednesday 2:00PM
Safari Internet Plug-Ins Lab	Internet and Web Lab A Thursday 9:00AM
Safari Extensions Lab	Internet and Web Lab A Thursday 2:00PM
Safari Open Lab	Internet and Web Lab A Friday 9:00AM
Safari Internet Plug-Ins Lab	Internet and Web Lab B Friday 9:00AM

Q&A





