Safari Extensibility: Content Blocking and Shared Links

Session 511

Brian Weinstein Safari and WebKit Engineer
Alex Christensen Safari and WebKit Engineer
Safari Extensibility

What’s new

Content Blockers

Changes to the Extensions Gallery

Shared Links App Extensions
Safari Extensibility

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Content Blockers
Changes to the Extensions Gallery
Shared Links App Extensions
Content Blockers
iOS and OS X
What Content Blockers Can Do
What Content Blockers Can Do
Hide an element
What Content Blockers Can Do

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Hide an element

```html
<div id="links">...</div>
```
What Content Blockers Can Do

Hide an element
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Hide an element

"action": {
    "type": "css-display-none",
    "selector": "#links"
}
What Content Blockers Can Do

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What Content Blockers Can Do

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"trigger": {
    "if-domain": ["bigbearsgolfblog.com"],
    "url-filter": ".*"
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What Content Blockers Can Do

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What Content Blockers Can Do

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```json
{
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What Content Blockers Can Do

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        "type": "css-display-none",
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        "if-domain": ["bigbearsgolfblog.com"],
        "url-filter": ".*"
    }
}
```
What Content Blockers Can Do

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What Content Blockers Can Do
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What Content Blockers Can Do

tracking_script.js — example.com
What Content Blockers Can Do
What Content Blockers Can Do
What Content Blockers Can Do

⚠️ You’ve been tracked
What Content Blockers Can Do

Block a load

"action": {
  "type": "block"
}"
What Content Blockers Can Do

Block a load

"action": {
    "type": "block"
}
What Content Blockers Can Do
Block a load

"trigger": {
    "url-filter": "tracking_script",
    "resource-type": ["script"],
    "load-type": ["third-party"]
}
What Content Blockers Can Do

Block a load

"trigger": {
    "url-filter": "tracking_script",
    "resource-type": ["script"],
    "load-type": ["third-party"]
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What Content Blockers Can Do

Block a load

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    "url-filter": "tracking_script",
    "resource-type": ["script"],
    "load-type": ["third-party"]
}
What Content Blockers Can Do

Block a load

```json
{
    "action": {
        "type": "block"
    },
    "trigger": {
        "url-filter": "tracking_script",
        "resource-type": ["script"],
        "load-type": ["third-party"]
    }  
}
```
What Content Blockers Can Do

Block a load
What Content Blockers Can Do

Block a load
What Content Blockers Can Do

Block a load
What Content Blockers Can Do

Block a load
What Content Blockers Can Do

Block a load
Creating Content Blockers on iOS

Choose a template for your new target:

- iOS
  - Application
  - Framework & Library
  - Application Extension
  - Apple Watch
  - Test

- OS X
  - Application
  - Framework & Library
  - Application Extension
  - Test
  - System Plug-in
  - Other

- Action Extension
- Content Blocker Extension
- Custom Keyboard
- Document Provider
- Photo Editing Extension
- Share Extension
- Shared Links Extension
- Spotlight Index Extension
- Today Extension

Content Blocker Extension
This template builds a Safari Content Blocker application extension.
func beginRequestWithExtensionContext(context: NSExtensionContext) {
    let item = NSExtensionItem()

    let blockerURL = NSBundle.mainBundle().URLForResource("blockerList",
                   withExtension: "json")
    item.attachments = [NSItemProvider(contentsOfURL: blockerURL)!]

    context.completeRequestReturningItems([item], completionHandler: nil)
}
func beginRequestWithExtensionContext(context: NSExtensionContext) {
    let item = NSExtensionItem()

    let blockerURL = NSBundle.mainBundle().URLForResource("blockerList", withExtension: "json")
    item.attachments = [NSItemProvider(contentsOfURL: blockerURL)!]

    context.completeRequestReturningItems([item], completionHandler: nil)
}
Management settings in your app
API in the SafariServices Framework
Updating Content Blockers

Management settings in your app
API in the SafariServices Framework
Updating Content Blockers

Management settings in your app
API in the SafariServices Framework

`SFContentBlockerManager.reloadContentBlockerWithIdentifier(identifier: String, completionHandler: ((NSError?) -> Void)?)`
Demo

Content Blockers on iOS

Alex Christensen
Safari and WebKit Engineer
Content Blocking on OS X

Brought the same model to the Mac
Content Blocking on OS X

Brought the same model to the Mac
Faster and more memory efficient
Content Blocking on OS X

Brought the same model to the Mac
Faster and more memory efficient

canLoad has been deprecated
Content Blocking on OS X

Extension Builder

**Content Blocking**

- Display Version: 1.0
- Bundle Version: 1

**Website Access**

- Access Level: None

**Content Blocker**

- Content Blocker File: None

**Global Page**

- Global Page File: None

**Storage**

- Database Quota: None
Content Blocking on OS X

Extension Builder

### Content Blocker
- Content Blocker.safarisection
- Safari Developer: [A1B2C3D4E5] admin@example.com

### Versions
- Display Version: 1.0
- Bundle Version: 1

### Website Access
- Access Level: None

### Content Blocker
- Content Blocker File: None

### Global Page
- Global Page File: None

### Storage
- Database Quota: None
Content Blocking on OS X

Extension Builder

Content Blocker

Content Blocker File: None

Global Page File: None

Storage

Database Quota: None

Chrome
Content Blocking on OS X
JavaScript API
Content Blocking on OS X

JavaScript API

`safari.extension.setContentBlocker(contentBlocker)`
Content Blocking on OS X

JavaScript API

safari.extension.setContentBlocker(contentBlocker)

- **contentBlocker** can either be an object or a JSON string
What We Are Going to Talk About

Content Blockers
Changes to the Extensions Gallery
Shared Links App Extensions
What We Are Going to Talk About

Content Blockers
Changes to the Extensions Gallery
Shared Links App Extensions
Changes to the Extensions Gallery
Safari Extension Updates

Extensions Gallery
ColorFinder
Productivity
Jessie Berlin

Shows all the background, text, and border colors used on the page.

Install Now
Safari Extension Updates

Extensions Gallery

New Extension Guidelines

• Extensions will now be signed and hosted by Apple
• Please resubmit to the gallery
Safari Extension Updates

Extensions Gallery

New Extension Guidelines

- Extensions will now be signed and hosted by Apple
- Please resubmit to the gallery

New flag in update manifest

```xml
<key>Update From Gallery</key>
<true/>
```
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Shared Links App Extensions
iOS and OS X
Kevin Mathers
Dont know how many tables they're setting up. Last year was 120 tables, less than 1,000 players
twitter.com/ray_henson/sta...

GolfWRX
2015 Gear Trials: The Best Clubs in Golf
What are the best clubs? It's a question we see asked over and over again on GolfWRX, and we've done our best to

Washington Post: Breaking News,...
China prepares to turn capsized ship, signaling end of survivor search
BEIJING — Chinese authorities on Friday morning began preliminary work on righting a cruise liner that capsized earlier this week with 456 people abo...

Quakes Epicenter
Former Quakes Overseas: Simon Dawkins with Derby County wp me/
Shared Links App Extensions

For apps to put their content in Safari’s Shared Links
Same API on iOS and OS X
Shared Links App Extensions

For apps to put their content in Safari’s Shared Links

Same API on iOS and OS X
Creating a Shared Links App Extension

Choose a template for your new target:

iOS
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- Application Extension
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- Content Blocker Extension
- Custom Keyboard
- Document Provider
- Photo Editing Extension
- Share Extension
- Spotlight Index Extension
- Today Extension

Shared Links Extension
This template builds a Safari Shared Links application extension.
Creating a Shared Links App Extension

let extensionItem = NSExtensionItem()
Creating a Shared Links App Extension

let extensionItem = NSExtensionItem()
Creating a Shared Links App Extension

extensionItem.userInfo = [
    "uniqueIdentifier": "A1B2-C3D4"
]
Creating a Shared Links App Extension

```javascript
extensionItem.userInfo = [
    "uniqueIdentifier": "A1B2-C3D4",
    "urlString": "http://webkit.org"
]
```
extensionItem.userInfo = [
    "uniqueIdentifier": "A1B2-C3D4",
    "urlString": "http://webkit.org",
    "date": NSDate(
        timeIntervalSinceReferenceDate: 455474512)
]
Creating a Shared Links App Extension

```javascript
extensionItem.userInfo = [
    "uniqueIdentifier": "A1B2-C3D4",
    "urlString": "http://webkit.org",
    "date": NSDate(
        timeIntervalSinceReferenceDate: 455474512),
    "displayName": "WebKit News"
]
```
Creating a Shared Links App Extension

extensionItem.userInfo = [
    "uniqueIdentifier": "A1B2-C3D4",
    "urlString": "http://webkit.org",
    "date": NSDate(timeIntervalSinceReferenceDate: 455474512),
    "displayName": "WebKit News"
]

uniqueIdentifier must be consistent across instantiations of the extension
extensionItem.userInfo = [
  "uniqueIdentifier": "A1B2-C3D4",
  "urlString": "http://webkit.org",
  "date": NSDate(timeIntervalSinceReferenceDate: 455474512),
  "displayName": "WebKit News"
]

`uniqueIdentifier` must be consistent across instantiations of the extension.

If `displayName` is not set, Safari falls back to display name of the App Extension.
Creating a Shared Links App Extension

extensionItem.attributedTitle = NSAttributedString(string: "WebKit is awesome")
Creating a Shared Links App Extension

extensionItem.attributedTitle = NSAttributedString(string: "WebKit is awesome")

extensionItem.attributedContentText = NSAttributedString(string: "Here are some reasons why WebKit is awesome.")
extensionItem.attributedTitle = NSAttributedString(string: "WebKit is awesome")

extensionItem.attributedContentText = NSAttributedString(string: "Here are some reasons why WebKit is awesome.")
Creating a Shared Links App Extension

extensionItem.attributedTitle = NSAttributedString(string: "WebKit is awesome")

extensionItem.attributedContentText = NSAttributedString(string: "Here are some reasons why WebKit is awesome.")

Title and content text will be automatically ellipsized if they are too long
let bundle = NSBundle.mainBundle()
let iconURL = bundle.URLForResource("icon", withExtension: "png")
extensionItem.attachments = [ NSItemProvider(contentsOfURL: iconURL) ]
Creating a Shared Links App Extension

let bundle = NSBundle.mainBundle()
let iconURL = bundle.URLForResource("icon", withExtension: "png")
extensionItem.attachments = [ NSItemProvider(contentsOfURL: iconURL)!
]
let bundle = NSBundle.mainBundle()
let iconURL = bundle.URLForResource("icon", withExtension: "png")
extensionItem.attachments = [ NSItemProvider(contentsOfURL: iconURL)! ]

Icon in top right corner is your app's icon
Creating a Shared Links App Extension

let bundle = NSBundle.mainBundle()
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Icon in top right corner is your app's icon
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let iconURL = bundle.URLForResource("icon", withExtension: "png")
extensionItem.attachments = [ NSItemProvider(contentsOfURL: iconURL)! ]

Icon in top right corner is your app's icon
All properties must be set after `userInfo`
Demo

Creating a Shared Links App Extension

Alex Christensen
Safari and WebKit Engineer
Summary

Write content blockers
Submit your extensions to the Safari Extensions Gallery
Put your content in Shared Links
Summary

Write content blockers
Submit your extensions to the Safari Extensions Gallery
Put your content in Shared Links
Summary

Write content blockers
Submit your extensions to the Safari Extensions Gallery
Put your content in Shared Links
More Information

Technical Support
Apple Developer Forums
http://developer.apple.com/forums

http://webkit.org/blog/

General Inquiries
Jon Davis, Web Technologies Evangelist
web-evangelist@apple.com
<table>
<thead>
<tr>
<th>Session Title</th>
<th>Location</th>
<th>Date/Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introducing Safari View Controller</td>
<td>Nob Hill</td>
<td>Tuesday 1:30PM</td>
</tr>
<tr>
<td>Using Safari to Deliver and Debug a Responsive Web Design</td>
<td>Mission</td>
<td>Wednesday 9:00AM</td>
</tr>
<tr>
<td>What’s New in Network Extension and VPN</td>
<td>Nob Hill</td>
<td>Friday 9:00AM</td>
</tr>
</tbody>
</table>
### Related Labs

<table>
<thead>
<tr>
<th>Safari and WebKit Lab</th>
<th>Graphics, Games, and Media Lab A</th>
<th>Friday 12:00PM</th>
</tr>
</thead>
</table>
