What’s New for Web Developers

Devin Rousso, Safari and WebKit Engineer
What’s New for Web Developers

• Dark Mode
• Web Share
• New media features
• Tools for improving performance
• Storing structured data
• Apple Pay
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A fast, open source web browser engine.

WebKit is the web browser engine used by Safari, Mail, App Store, and many other apps on macOS, iOS, and Linux. Get started contributing code, or reporting bugs.

Web developers can follow development, check feature status, download Safari Technology Preview to try out the latest web technologies, and report bugs.
/* Enabling dark mode */

:root {
  color-scheme: light dark;
  --link-text-color: ...;
  --paragraph-background-color: ...;
  ...
}

Heading

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Form

Enter Email

Checkbox A

Radio Option 1

Checkbox B

Radio Option 2
/* Enabling dark mode */

:root {
color-scheme: light dark;
--link-text-color: ...
--paragraph-background-color: ...
...
}

Heading
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

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Form

Enter Email

- Checkbox A
- Checkbox B

- Radio Option 1
- Radio Option 2
/* Enabling dark mode */
:root {
    color-scheme: light dark;
    --link-text-color: ...;
    --paragraph-background-color: ...;
    ...
}

/* Adapting content to dark mode with CSS */
@media (prefers-color-scheme: dark) {
    :root {
        --link-text-color: ...;
        --paragraph-background-color: ...;
        ...
    }
    ...
}
/* Enabling dark mode */

:root {
    color-scheme: light dark;
    --link-text-color: ...
    --paragraph-background-color: ...
    ...
}

/* Adapting content to dark mode with CSS */

@media (prefers-color-scheme: dark) {
    :root {
        --link-text-color: ...
        --paragraph-background-color: ...
        ...
    }
    ...
}
<!-- Adapting an image to dark mode with HTML -->
<picture>
  <source srcset="dark.jpg" media="(prefers-color-scheme: dark)"/>
  <img src="light.jpg"/>
</picture>
// Adapting dynamic content to dark mode with JavaScript

let darkModeMediaQuery = window.matchMedia("(prefers-color-scheme: dark)".CompletedExecution.

function updateForDarkModeChange() {
    if (darkModeMediaQuery.matches) {
        ...
    } else {
        ...
    }
}

darkModeMediaQuery.addListener(updateForDarkModeChange);
updateForDarkModeChange(); // Handle if Dark Mode is already active.
// Adapting dynamic content to dark mode with JavaScript

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function updateForDarkModeChange() {
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// Using the Web Share API after the user clicks a button

let shareButton = document.createElement("button");
shareButton.addEventListener("click", async (event) => {
    try {
        await navigator.share({
            title: "Dark Mode Support in WebKit",
            text: "Learn about how to support Dark Mode in your web content.",
        });
    } catch (error) {
        ...
    }
});
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    }
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Learn about how to support Dark Mode in your webpages with Dark Mode Support in Webkit. [webkit.org/blog/8840/dark...](webkit.org/blog/8840/dark...)

Intelligent Tracking Prevention 2.2 limits tracking via link decoration by capping client-side cookies to 1 day of storage. Read more details on the WebKit blog.
Learn about how to support Dark Mode in your websites with Dark Mode Support in Webkit. webkit.org/blog/8840/dark...

Getting Started

Intelligent Tracking Prevention 2.2 limits tracking via link decoration by capping client-side cookies to 1 day of storage. Read more details on the WebKit blog.
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// Checking the media capabilities of the device

navigator.mediaCapabilities.decodingInfo(configuration).then((capabilities) => {
    if (capabilities.supported) {
        if (capabilities.powerEfficient) {
            ...
        }
    }
    if (capabilities.smooth) {
        ...
    }
} else {
    ...
});
// Checking the media capabilities of the device

navigator.mediaCapabilities.decodingInfo(config).then((capabilities) => {
  if (capabilities.supported) {
    if (capabilities.powerEfficient) {
      ...
    }

    if (capabilities.smooth) {
      ...
    }
  } else {
    ...
  }
});
// Checking for alpha channel video support

const configuration = {
    video: {
        alphaChannel: true,
        ...
    },
};

navigator.mediaCapabilities.decodingInfo(configuration).then((capabilities) => {
    if (capabilities.supported && capabilities.supportedConfiguration.video.alphaChannel) {
        ...
    } else {
        ...
    }
});
/ Checking for alpha channel video support

const configuration = {
  video: {
    alphaChannel: true,
    ...
  },
};

navigator.mediaCapabilities.decodingInfo(configuration).then((capabilities) => {
  if (capabilities.supported && capabilities.supportedConfiguration.video.alphaChannel) {
    ...
  } else {
    ...
  }
});
HEVC Video with Alpha

WWDC 2019
WebRTC Screen Capture

Prompts the user for permission every time

Captures the space containing the Safari window

```javascript
navigator.mediaDevices.getDisplayMedia({ video: true }).then((stream) => {
  let videoElement = document.createElement("video");
  videoElement.src = URL.createObjectURL(stream);
  rtcPeerConnection.addTrack(stream.getVideoTracks()[0]);
  ...
});
```
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Web Inspector CPU Timeline
Web Inspector CPU Timeline

Understanding CPU Usage with Web Inspector

WWDC 2019
WebDriver on iOS
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IndexedDB
Storing Structured Data

IndexedDB

WebSQL
Storing Structured Data

- IndexedDB
- WebSQL
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Payment Request API for Apple Pay
Apple Pay in WKWebView on iOS
Apple Pay in WKWebView on iOS

Denied if script has ever been injected
Denied if script has ever been injected

Future script injections denied after Apple Pay is requested
Denied if script has ever been injected

Future script injections denied after Apple Pay is requested

Restrictions are reset during navigation
canMakePayments
Prefer WebKit APIs instead of using JavaScript, when possible
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Listen to DeJuan Turner’s new album Deep Time

DeJuan Turner continues to explore the funk roots of hip hop with his LP release of Deep Time. Layers of dense beats and fiery lyrics feature guest appearances by CC Wan and Eva "San Jose" Perez.

MUSIC / HIP.HOP

06.03.19
Introducing Desktop-class Browsing on iPad
More Information

developer.apple.com/wwdc19/518