

#WWDC19

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](#).



Dark Mode Support in WebKit



Intelligent Tracking Prevention 2.2



Introducing the JetStream 2 Benchmark Suite

```
/* Enabling dark mode */
:root {
  color-scheme: light dark;
  --link-text-color: ...;
  --paragraph-background-color: ...;
  ...
}
```

Heading

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Form

Checkbox A

Checkbox B

Radio Option 1

Radio Option 2

```
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Form

Enter Email Select Option 1

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: ...;
    ...
  }
  ...
}
```

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 Select Option 1

Checkbox A Checkbox B

Radio Option 1 Radio Option 2

```
<!-- Adapting an image to dark mode with HTML -->
<picture>
  <source srcset="dark.jpg"
    media="(prefers-color-scheme: dark)">
  
</picture>
```

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.



Form

Enter Email Select Option 1

Checkbox A

Checkbox B

Radio Option 1

Radio Option 2

```
<!-- Adapting an image to dark mode with HTML -->
<picture>
  <source srcset="dark.jpg"
    media="(prefers-color-scheme: dark)">
  
</picture>
```

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.



Form

 Checkbox A Checkbox B Radio Option 1 Radio Option 2

```
// Adapting dynamic content to dark mode with JavaScript

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

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

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

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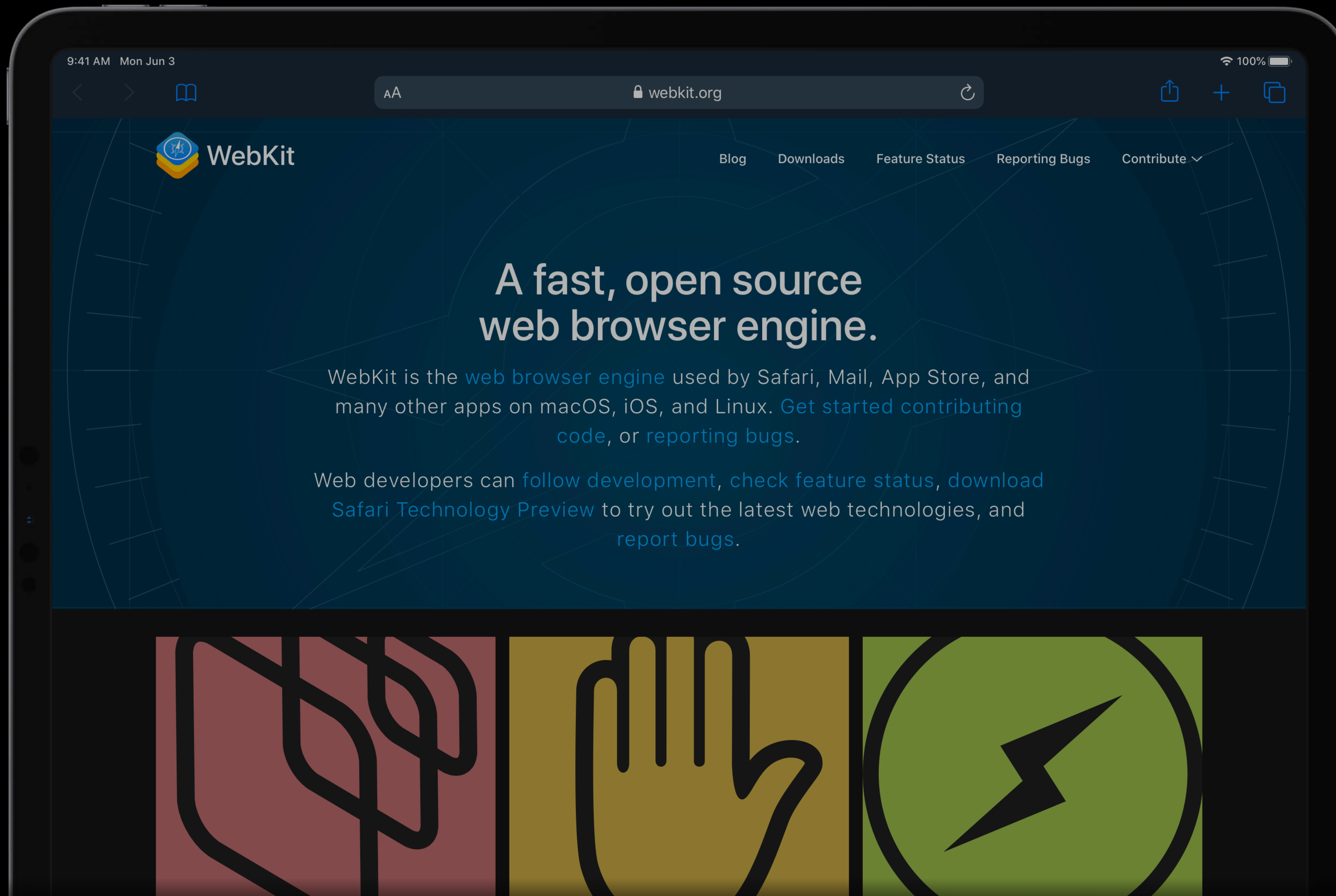
Dark Mode Support in WebKit



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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.",
      url: "https://webkit.org/blog/8840/dark-mode-support-in-webkit",
    });
  } catch (error) {
    ...
  }
});
```

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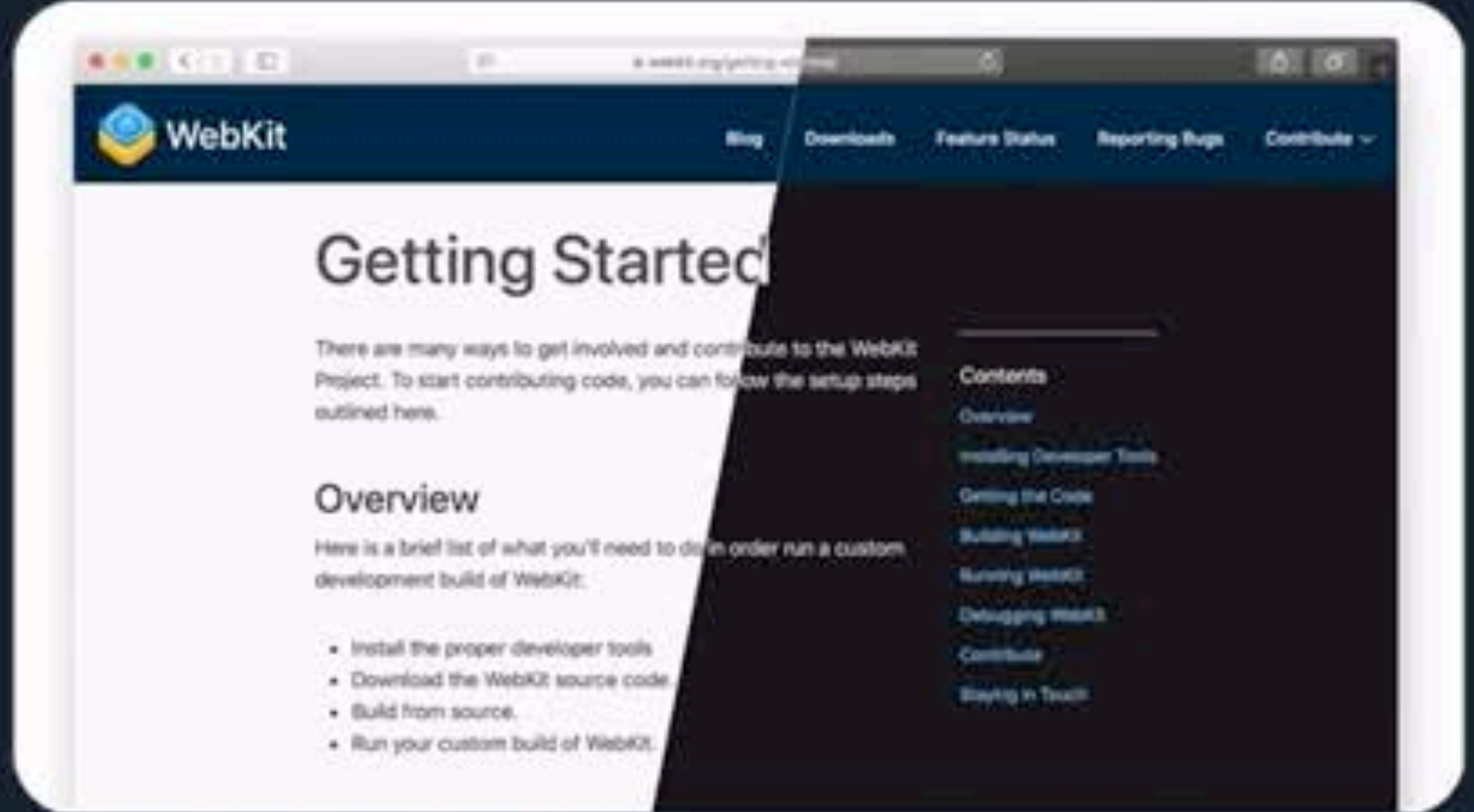
NEW



NEW



WebKit @webkit · May 7
Learn about how to support Dark Mode in your webpages with Dark Mode Support in WebKit.
[webkit.org/blog/8840/dark...](https://webkit.org/blog/8840/dark-mode-support/)



WebKit @webkit · Apr 24
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.

social.example	CLICKID	NAME
	100	Jane Doe

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```
// Checking the media capabilities of the device

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

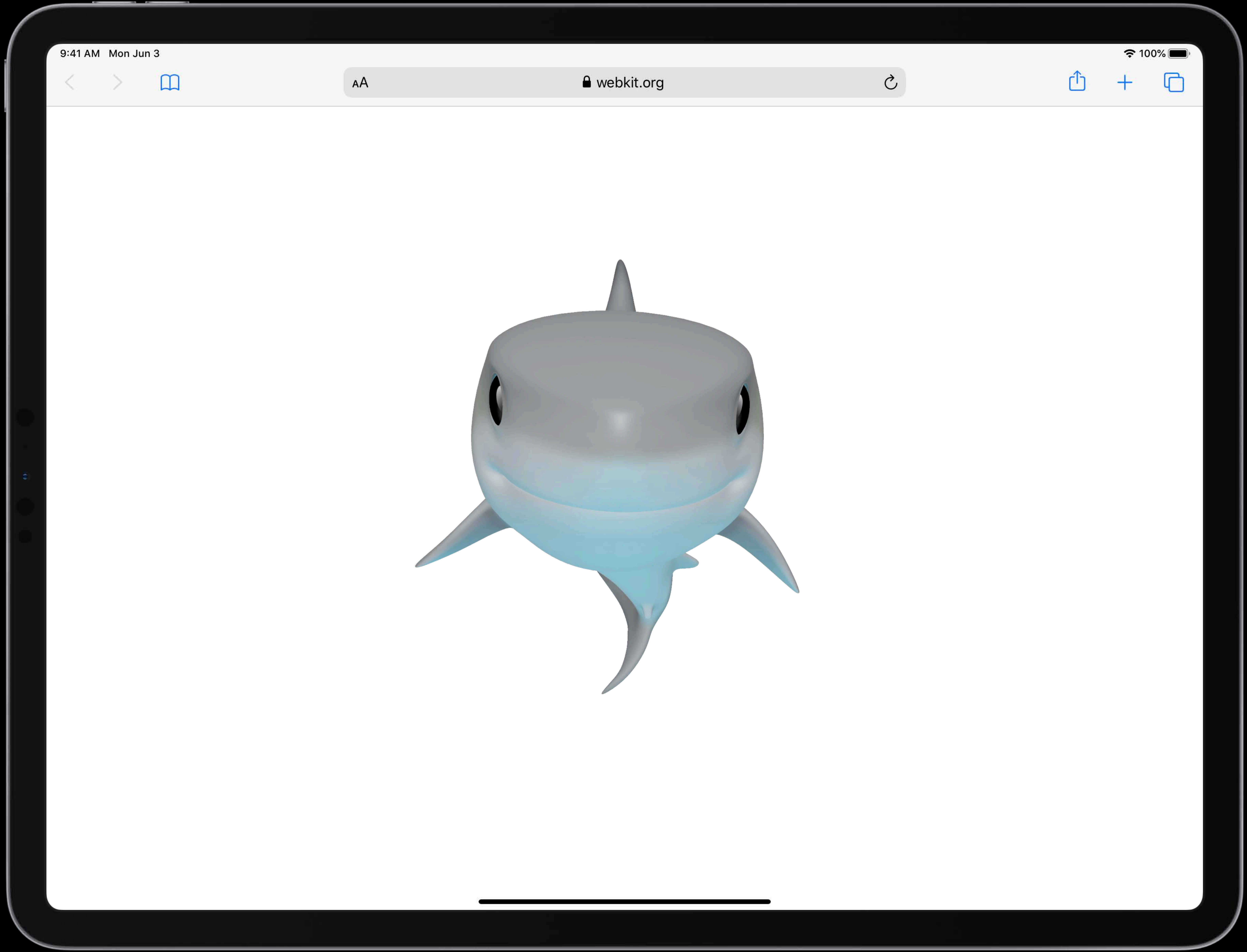
    if (capabilities.smooth) {
      ...
    }
  } else {
    ...
  }
});
```



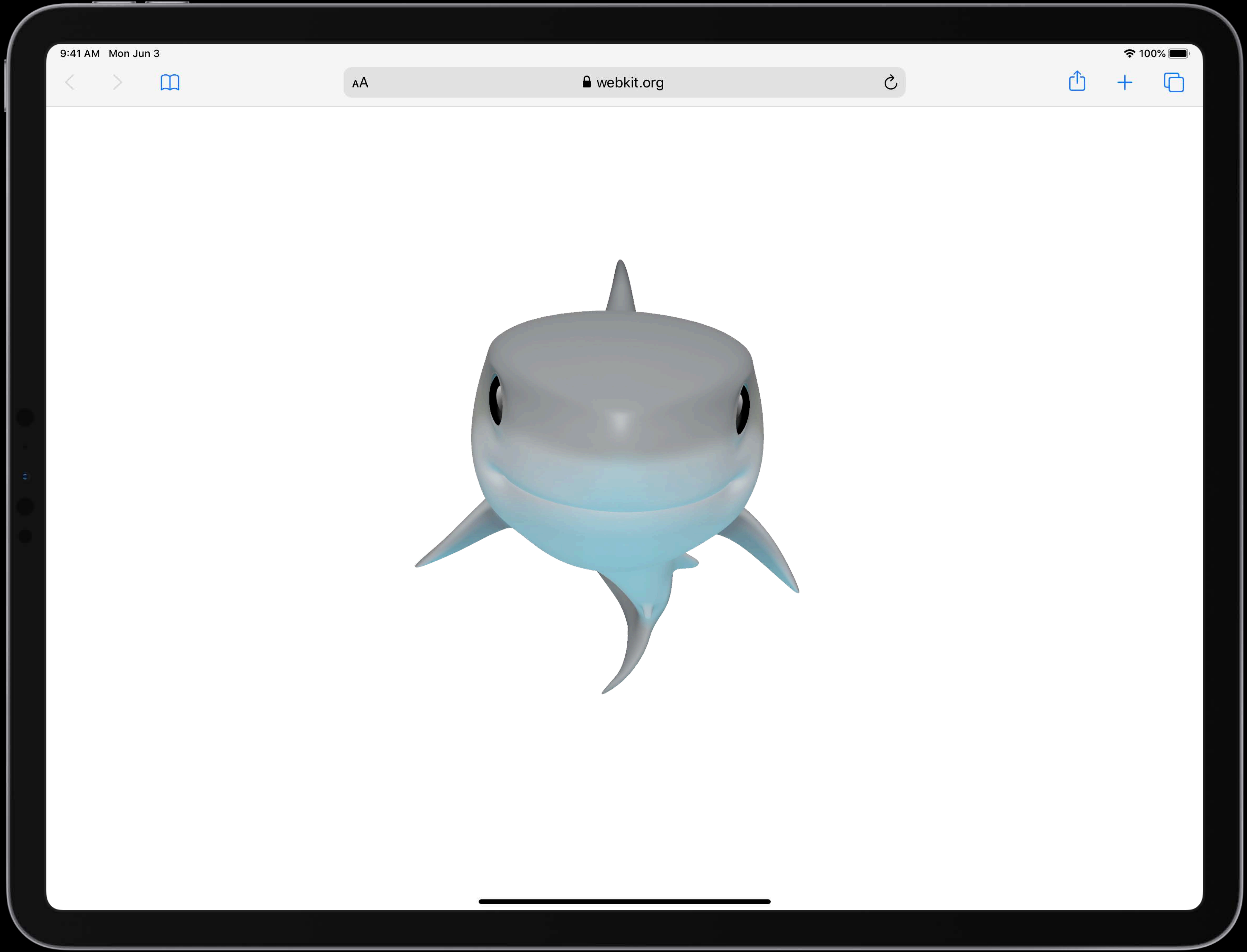
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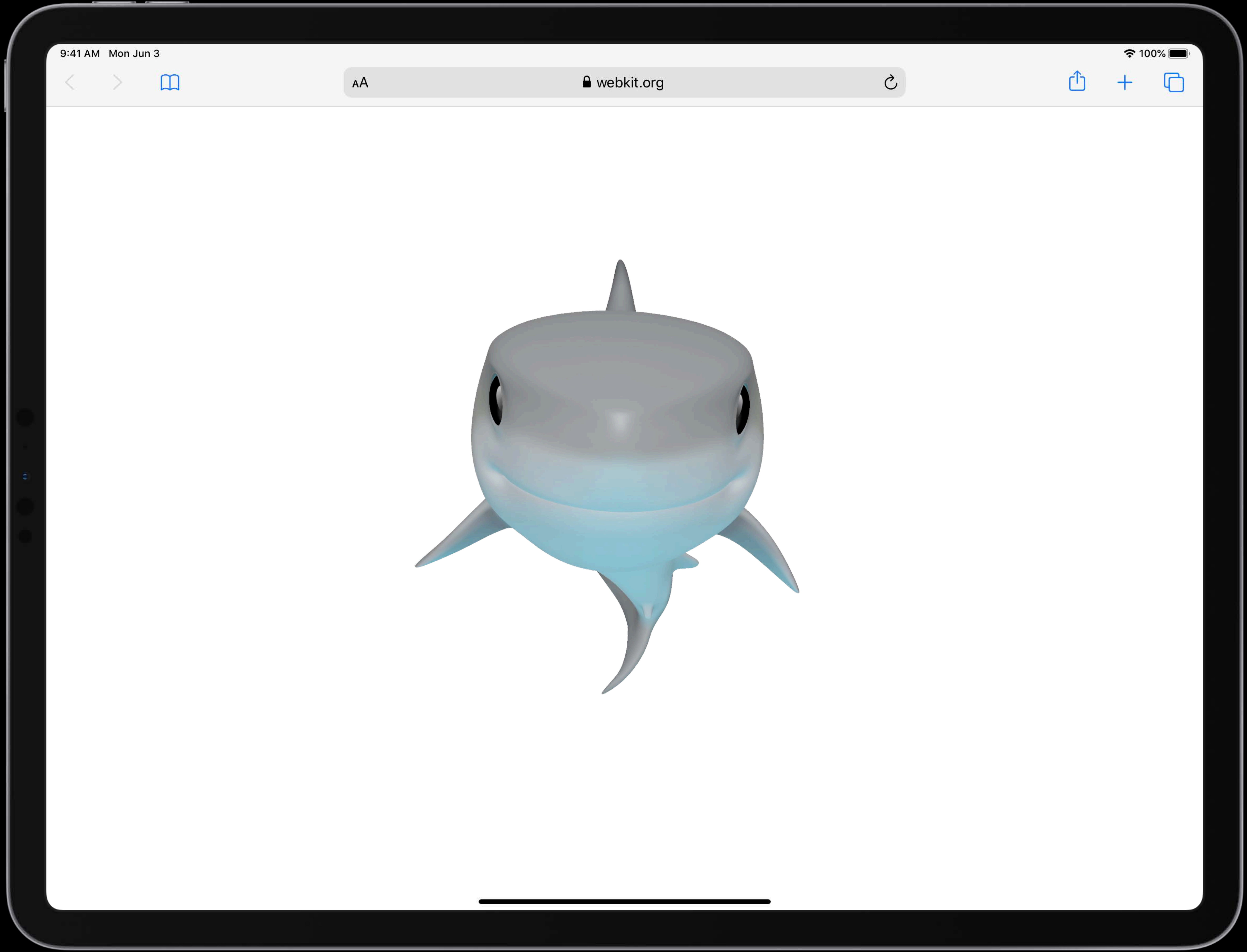
    if (capabilities.smooth) {
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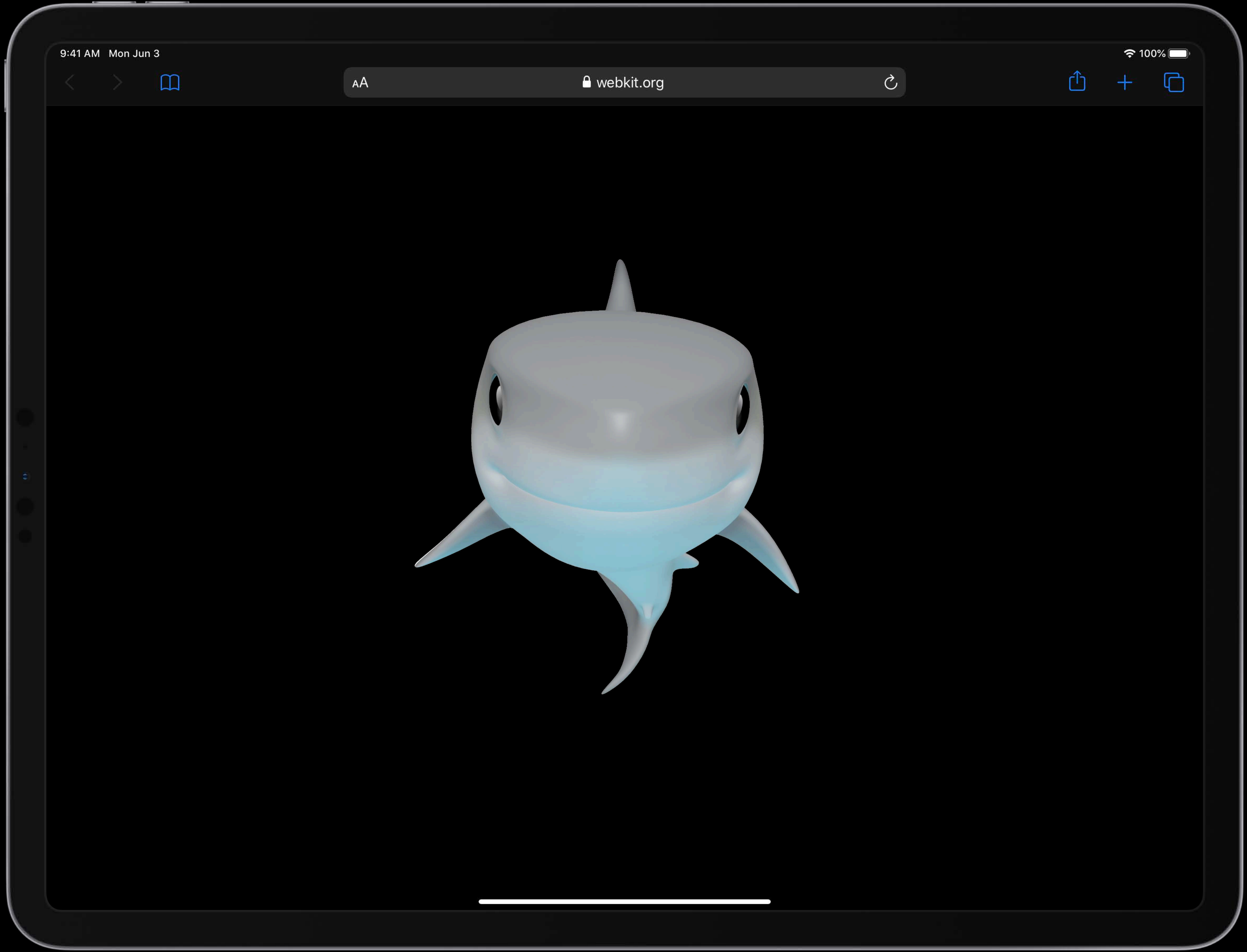
NEW



NEW



NEW



NEW

```
// Checking for alpha channel video support

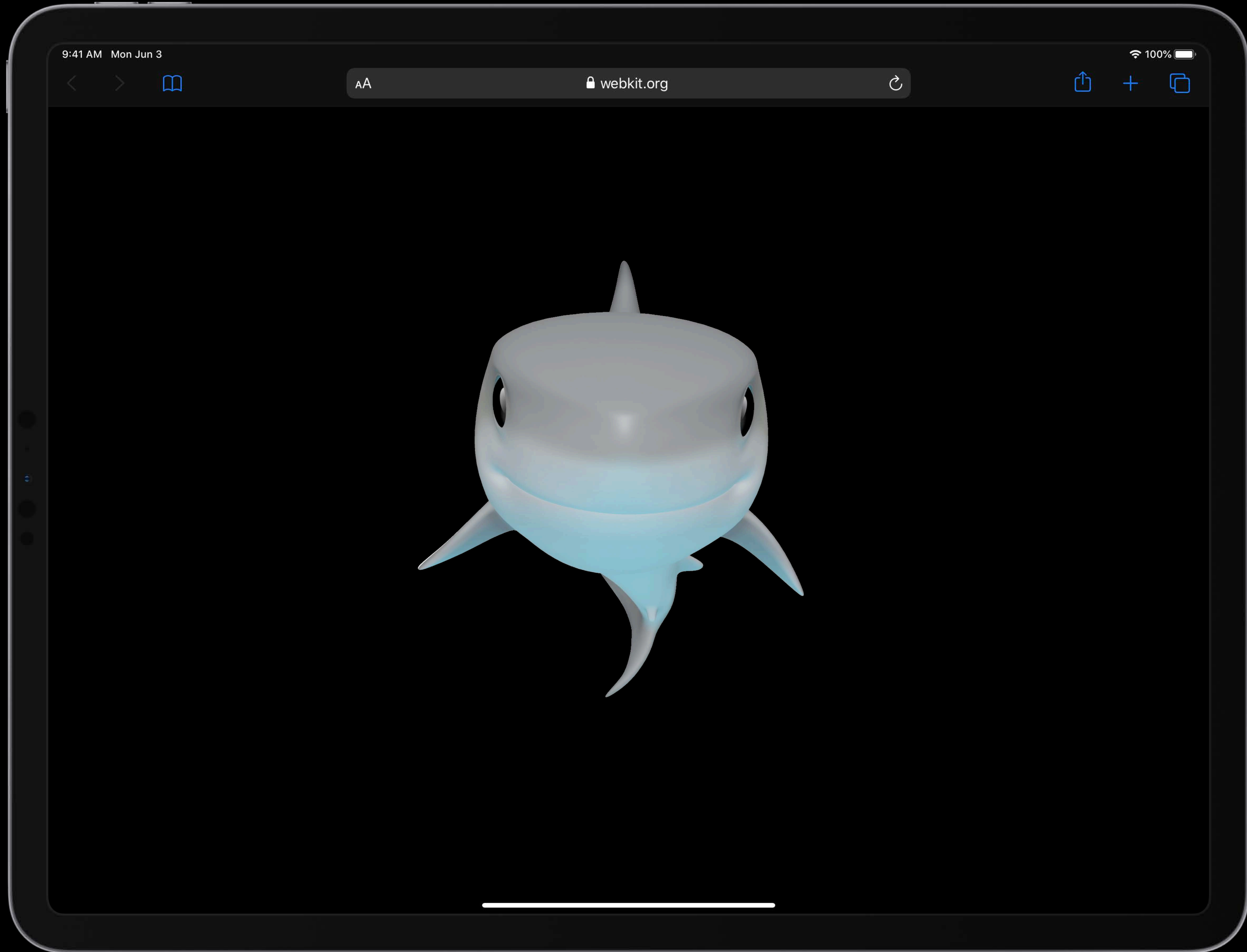
const configuration = {
  video: {
    alphaChannel: true,
    ...
  },
};

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

```
// Checking for alpha channel video support

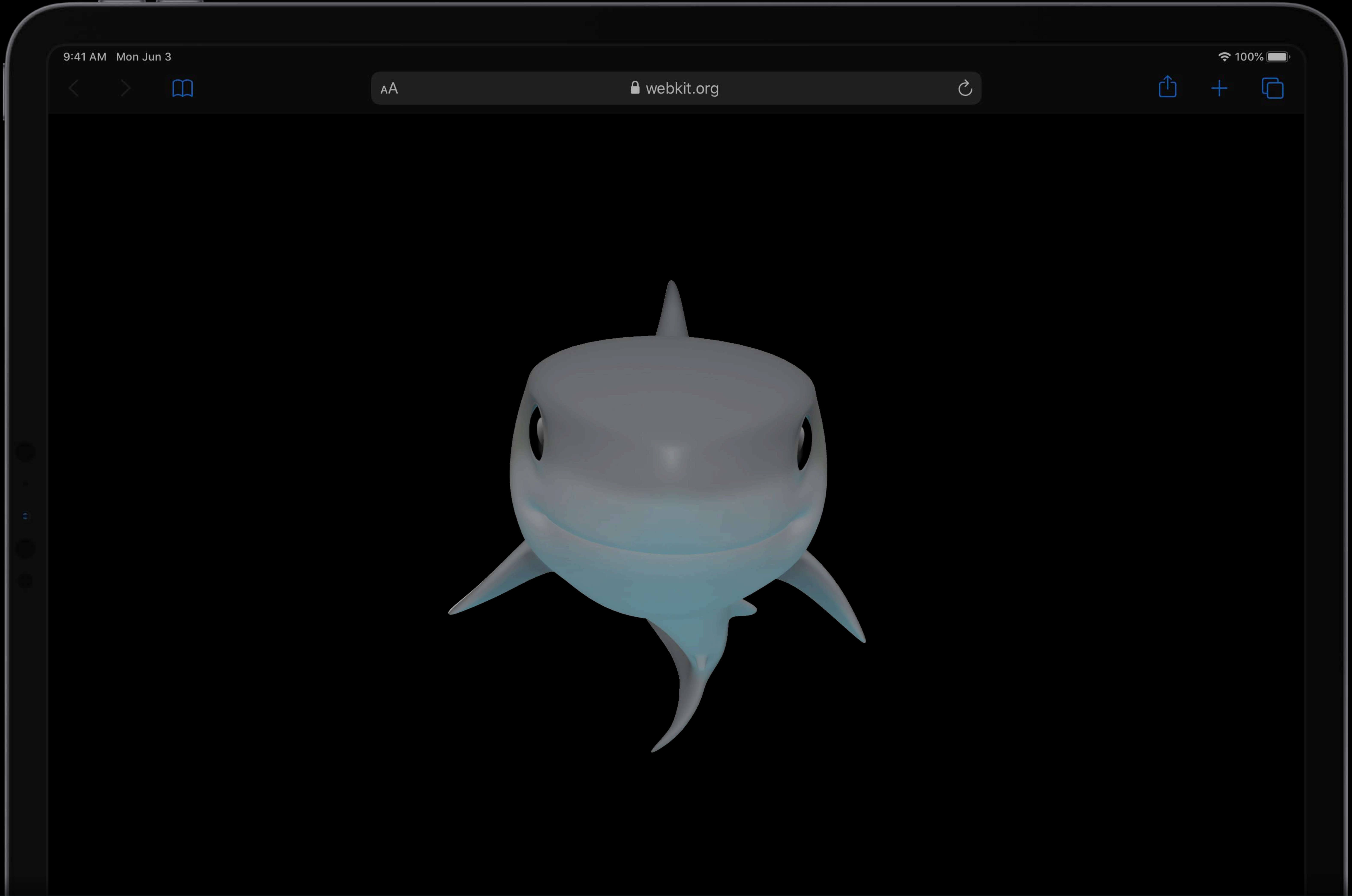
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  video: {
    alphaChannel: true,
    ...
  },
};

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



NEW

NEW



HEVC Video with Alpha

WWDC 2019

WebRTC Screen Capture

NEW

Prompts the user for permission every time

Captures the space containing the Safari window

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

WebRTC Screen Capture

NEW

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Captures the space containing the Safari window

```
navigator.mediaDevices.getDisplayMedia({ video: true }).then((stream) => {  
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Web Inspector CPU Timeline

NEW



Web Inspector CPU Timeline

NEW



NEW

WebDriver on iOS

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Storing Structured Data

Storing Structured Data

IndexedDB

Storing Structured Data

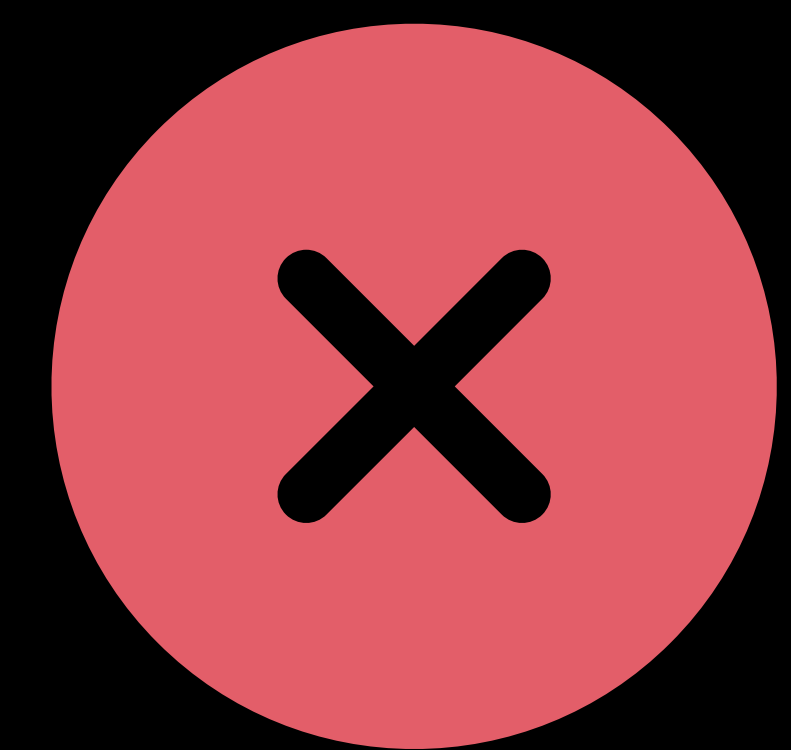
IndexedDB

WebSQL

Storing Structured Data



IndexedDB



WebSQL

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Payment Request API for Apple Pay

NEW

Apple Pay in WKWebView on iOS

Apple Pay in WKWebView on iOS

NEW

Apple Pay in WKWebView on iOS

NEW

Denied if script has ever been injected

Apple Pay in WKWebView on iOS



NEW

Denied if script has ever been injected

Future script injections denied after Apple Pay is requested

Apple Pay in WKWebView on iOS



NEW

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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JAMWIRE BEATS—DAILY










06.03.19

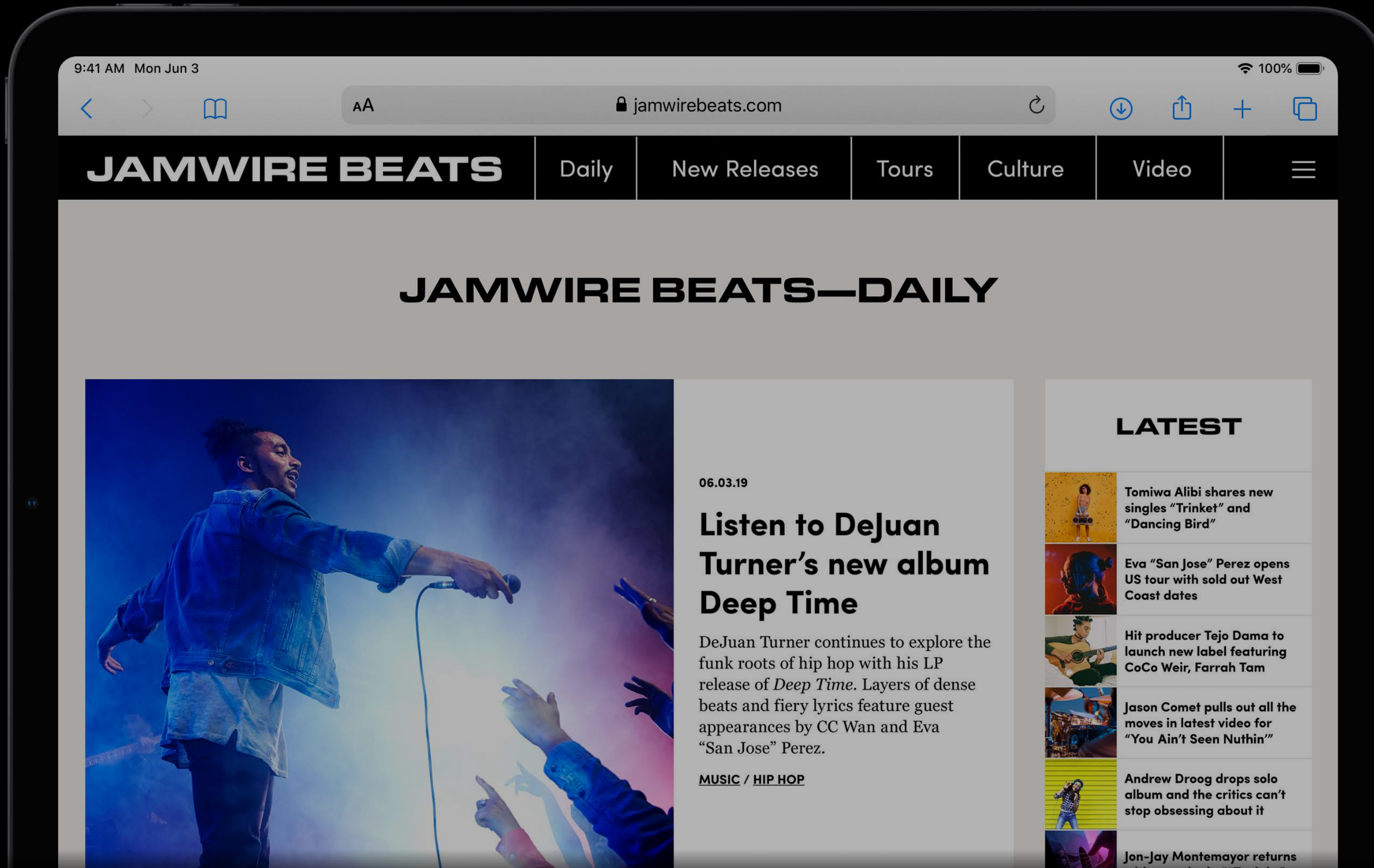
Listen to DeJuan Turner's new album *Deep Time*

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](#)

LATEST

-  Tomiwa Alibi shares new singles "Trinket" and "Dancing Bird"
-  Eva "San Jose" Perez opens US tour with sold out West Coast dates
-  Hit producer Tejo Dama to launch new label featuring CoCo Weir, Farrah Tam
-  Jason Comet pulls out all the moves in latest video for "You Ain't Seen Nuthin"
-  Andrew Droog drops solo album and the critics can't stop obsessing about it
-  Jon-Jay Montemayor returns with new single "2Tonight"
-  The top 10 latest, greatest rap songs right now



Introducing Desktop-class Browsing on iPad

WWDC 2019

More Information

developer.apple.com/wwdc19/518

