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Feature Overview

Summary

In this explainer we describe a way to set the title bar text of installed web apps by adding an apptitle meta tag in the HTML header. The apptitle can provide dynamic and contextual information about the web app, such as the name of an open document or the section of the app.

The apptitle will be used to specify the title bar text of installed web apps, which currently defaults to the document title and may not be descriptive enough. The apptitle attribute would be optional and would not affect the document title or the browser tab title.

Background

The title bar of an installed web app can display contextual information that is different from the page's title. This can help users identify the app window and its content more easily. To achieve this, developers can use an apptitle meta tag in the head of the document. The apptitle can contain any text that is relevant to the app's context, such as the name of an open document or the section of an app.
The format of the apptitle meta tag is: <meta name="app-title" content="Some text">
The text in the apptitle meta tag will be appended to the app's name from the manifest in the title bar. If content of the meta tag is set to empty or blank then window title will be set to app name.

Platforms

Mac, Windows, Linux, Chrome OS, Fuchsia, Android, Android WebView, WebLayer, iOS.

Bug

Pending

Goals

- Enable developers to set the web app title bar similar to what native apps can do.
- Provide better accessibility regarding information about the context of a web app.

Non-Goals

- Provide advanced/custom title bar compositions: APIs like Window Controls Overlay should be used to create custom title bar configurations.
- Change/update the name of the installed PWA: The text that appears before the hyphen is specified by the app name that comes from the manifest file. It is not in the scope of this API to change the text that corresponds to the title of the application.

Interfaces and Interactions

API Added/Changed

/third_party/blink/renderer/core/dom/document.h
```
  void UpdateApptitle();
```
/third_party/blink/public/mojom/frame/frame.mojom
```
// Overrides the title of the page in the UI.
  UpdateApptitle(mojo_base.mojom.String16? apptitle);
```
/content/browser/renderer_host/render_frame_host_impl.h
```
void UpdateApptitle(
        const absl::optional<::std::u16string>& apptitle) override;
```
/content/public/browser/web_contents.h
```
// Returns apptitle of the current navigation entry.
virtual const std::optional<std::u16string> GetAppTitle() = 0;
```

Breaking Changes

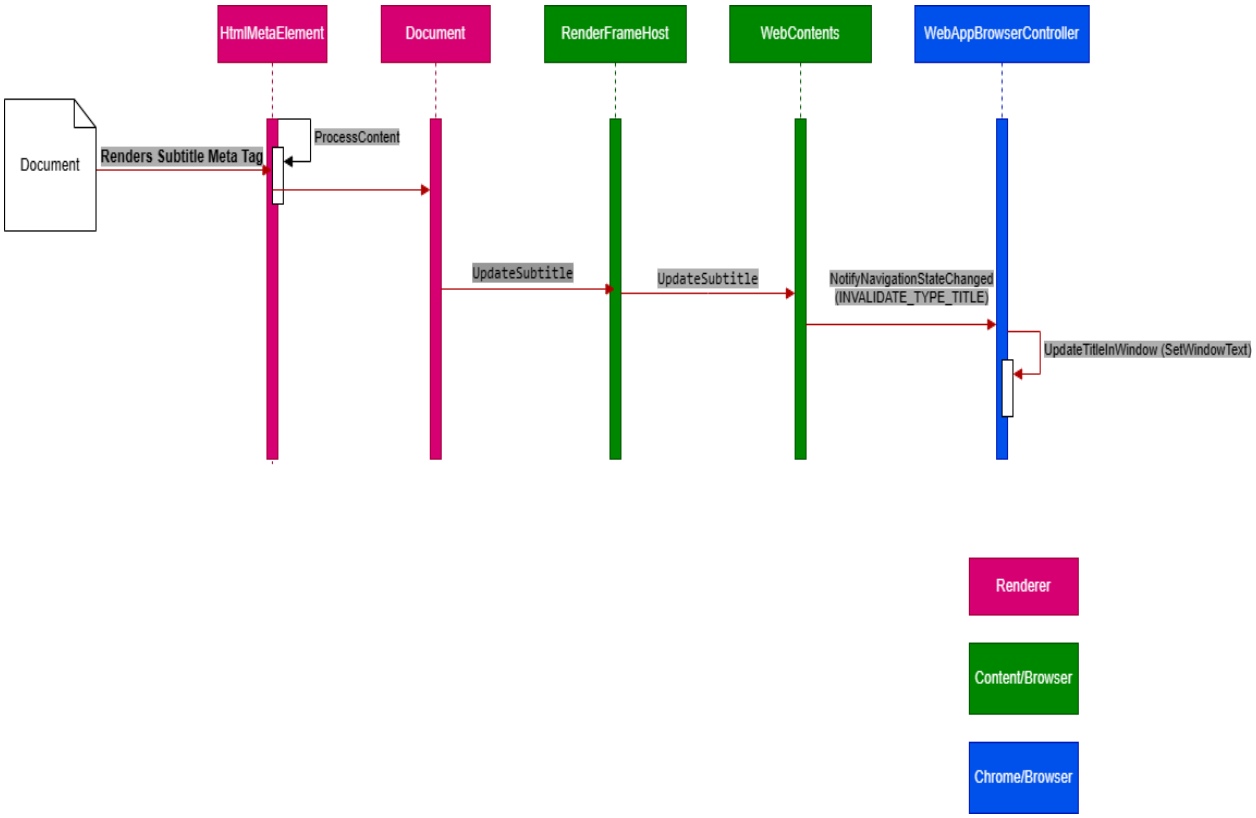
This is not a breaking change as this tag is not mandatory, and it only affects web apps that are installed and have opted in to using this feature. It is not visible otherwise.

Tools Impact

No additional tools need to be added as developers can use already existing tools to inspect this new meta tag.

Design

Overview



1. Renderer Changes
    a. HTMLMetaElement

When the HTML document renders the apptitle meta tag, the content in the apptitle meta tag will be updated via HTMLMetaElement::DidChange Apk apptitle.

b. LocalFrame

When the web app apptitle has been changed, then it updates the Document and the RenderFrameHost

2. Content Browser
    a. RenderFrameHost

Updates the web contents via RenderFrameHost::UpdateMetaTagTitle.

b. WebContents

WebContents notify the web app controller that the apptitle has changed.

3. Chrome Browser
    a. WebAppBrowserController

Finally, the WebAppBrowserController updates the title of the window.

b. DOM updates

If the meta tag content changes as a result of a DOM update, the web app window title bar updates to reflect the new meta tag content.

Ex: document.head.getElementsByTagName("meta").apptitle.content = "apptitle"

1. Renderer process – Metatag or document.apptitle updated in DevTools or via script:

chrome!blink::Document::UpdateWebAppapptitleCache
chrome!blink::LocalFrame::DidChangeWebAppapptitle
chrome!blink::HTMLMetaElement::ProcessContent
chrome!blink::HTMLMetaElement::ParseAttribute
chrome!blink::Element::AttributeChanged
chrome!blink::HTMLElement::AttributeChanged

2. Mojo message gets dispatched to the browser to notify of the update:

chrome.dll!blink::mojom::LocalFrameHostStubDispatch::Accept
chrome.dll!mojo::InterfaceEndpointClient::HandleValidatedMessage
chrome.dll!mojo::InterfaceEndpointClient::HandleIncomingMessageThunk::Accept
    chrome.dll!mojo::MessageDispatcher::Accept

3. Browser process – Gets notified of the apptitle change and propagates that to WebAppBrowserController:

chrome.dll!web_app::WebAppBrowserController::GetTitle
chrome.dll!Browser::GetWindowTitleFromWebContents
chrome.dll!Browser::GetWindowTitleForCurrentTab
chrome.dll!BrowserView::GetWindowTitle
chrome.dll!views::Widget::UpdateWindowTitle
chrome.dll!BrowserView::UpdateTitleBar

chrome.dll!Browser::ProcessPendingUIUpdates
chrome.dll!content::RenderFrameHostImpl::UpdateMetaTagTitle

Metrics

Success metrics

Log WebApp.apptitle.Metatag.Found histogram if apptitle is shown in the window title.

Experiments

We plan to run an origin trial of this feature.

Functional and Unit Testing

Test Approach

We'll use a combination of Web Platform Tests to validate metatag and browser tests to validate this scenario end to end.

Test Cases

1. Automated Test Cases
    a. Add tests to the Web Platform Tests suite to validate setting and updating apptitle via metatag.
    b. End-to-end browser test to install PWA with metatag and validate updating metatag updates the app title bar.
        i. With apptitle set to value or empty
2. Manual Test Cases
    a. Create a test page with an apptitle and validate setting/updating it from Dev Tools.

References

[Document apptitle (Fix PWA app titles) - Chrome Platform Status (chromestatus.com)]
[chromeExplainers/explainer.md at main · MicrosoftEdge/chromeExplainers · GitHub]
[Comparing whatwg:main...diekus:main · whatwg/html · GitHub]
[Test App (habenfoto.github.io)]