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Notification Features For Digital Content In A Mobile-Optimized Format

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NOTIFICATION FEATURES FOR DIGITAL CONTENT IN A MOBILE-OPTIMIZED FORMAT

ABSTRACT

Disclosed herein is a mechanism for providing notification features for digital content that is in a mobile-optimized format. The mechanism can, for example, provide one or more tags in the mobile-optimized format that specify a uniform resource locator (URL) for a notification content item. Such a URL provided in the one or more tags can enable digital content that is in a mobile-optimized format to request notification permissions from a parent page or domain of the digital content. Such a URL provided in the one or more tags can also enable digital content that is in a mobile-optimized format to specify a separate real-time notification content stream for in-app notifications.

BACKGROUND

Content providers are continuously searching for approaches to increase user engagement with their content. With the advent of mobile-optimized formats like the instant articles format and accelerated mobile pages format, these content providers have been serving pages in a mobile-optimized format to their users, where this mobile-optimized lightweight version of a page generally has a limited set of features. Such pages in a mobile-optimized format are cached by third parties and are pre-loaded in a browser application prior to a user access the page. However, because these pages are served by third parties and not by the content providers themselves, content providers are generally prevented from prompting users to enable additional engagement features, such as push notification features. As a result, these content providers are left with choosing between providing pages in a mobile-optimized format that load faster for users or promoting push notifications that may bring users back to the website of the content

provider at a later time. Thus, there is a need for a better approach to provide notification features for digital content in a mobile-optimized format.

DESCRIPTION

The mechanism described herein relate to providing notification features for digital content in a mobile-optimized format.

It should be noted that the mechanism described herein relate to digital content that is in a mobile-optimized format, which allows such digital content to be loaded and rendered faster in, for example, search results and content feeds. Such mobile-optimized content tends to include HTML code (e.g., but no JavaScript code) that is rendered inside of another application from a cache on that application (either client layer, server layer, or both). Moreover, such mobile-optimized content is often shown inside of another webpage (e.g., without using an iframe) or inside of a mobile native application (e.g., without serving the original domain). As a result, the user device receiving and presenting the mobile-optimized content has not navigated to the domain of the mobile-optimized content. Combined with the lack of JavaScript support for mobile-optimized content, notification features cannot be enabled for users using devices that visit a page in a mobile-optimized format.

Generally speaking, a server implementing the mechanism described herein can include one or more tags in the mobile-optimized formatted page that describes the uniform resource locators (URLs) which host the notification content items. This can, for example, enable a mobile-optimized formatted page to request domain-level permissions from the scope of the host domain. For example, the mechanism can be implemented to allow a web page (e.g., a mobile-optimized formatted page served by a third party source, such as a search engine) to provide notification features in the page itself. In a more particular example, using the mechanism

described herein, a mobile-optimized formatted page from Content Provider A can directly request notification permission from the scope of a search web page (Search Service B) that serves the mobile-optimized formatted page, thereby providing notification features for Content Provider A on the mobile-optimized formatted page served by Search Service B. This can also, for example, enable a mobile-optimized formatted page to specify a separate real-time notification content stream for in-app notifications. For example, by providing additional tags that specify a URL for the real-time notification content stream in the mobile-optimized format, a host service can embed the notification content from the URL within or nearby the mobile-optimized formatted page.

As shown in the example of FIG. 1 below, a notification option can be presented for a mobile-optimized formatted page.

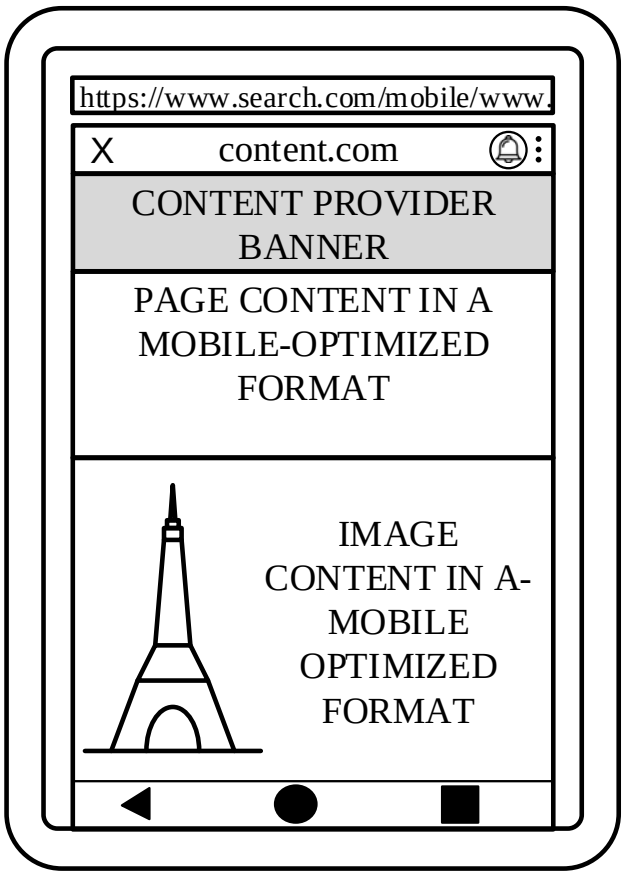

FIG. 1

It should be noted that this mechanism can be implemented with push notifications, notifications provided within an application (sometimes referred to herein as "in-app notifications"), or any other suitable notifications for mobile-optimized content.

Push Notifications

In some instances, the mechanisms can be implemented to provide push notifications in connection with mobile-optimized content.

The mechanism can provide an iframe that serves a JavaScript service worker running on the domain of the content provider. The hosting application can then enable the iframed content provider to prompt the user of the user device with the appropriate permission dialog to enable one or more notification features. The iframe itself is served by the hosting application can be initiated, for example, in response to a page load (e.g., loading a page in a mobile-optimized format) or in response to detecting interaction with one or more user interface elements (e.g., within or outside of the page in the mobile-optimized format).

Additionally or alternatively, the mechanisms can be implemented to provide push notifications in connection with mobile-optimized content by providing a suitable URL, where the URL can point directly to the above-mentioned JavaScript service worker. Similarly, the hosting application can then invoke the JavaScript service worker and prompt the user of the user device with the appropriate permission dialog to enable one or more notification features.

It should be noted that these implementations of the mechanism allow the hosting application to invoke a JavaScript service worker that requests permission from the user of the user device to receive notifications from another domain.

In-App Notifications

In some instances, the mechanisms can be implemented to provide notifications within an application in connection with mobile-optimized content. Similarly to the above-mentioned approach, the mechanism can use an iframe that provides a URL to notification features in the mobile-optimized format.

The mechanism can provide an iframe that serves a JavaScript service worker running on the domain of the content provider. In some instances, the hosting application can embed the iframe within the page in the mobile-optimized format itself. In some instances, the hosting application can embed the iframe outside of the page in the mobile-optimized format. The hosting application can then enable the iframed content provider to prompt the user of the user device with the appropriate permission dialog to enable one or more notification features.

Additionally or alternatively, the mechanisms can be implemented to provide in-app notifications in connection with mobile-optimized content by providing a suitable URL that is directed to a data stream in which a set of decoratable events is returned. This set of decoratable events can then be rendered by the hosting application. It should be noted that the decoratable events may contain or reference other pages or page content in the mobile-optimized format. In this implementation, the hosting application can cache the set of streamed decoratable events. It should be noted that the set of decoratable events can be updated in any suitable frequency (e.g., hourly, daily, weekly, etc.).

It should be noted that, although the mechanism described herein generally relates to using the operating system or browser application to execute the notification features, this is merely illustrative. For example, the hosting service can be implemented using the mechanism described herein to provide the notification features. In a more particular example, the hosting

application can register the notification service with the hosting service (as opposed to the local operating system).

Accordingly, a mechanism for providing notification features for digital content that is in a mobile-optimized format is provided.