Push Notifications

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Push Notifications

Have you ever been sidetracked while trying to make an online purchase only to find the next day that you got an e-mail reminding you that you still have items in your shopping cart? These type of reminders can be thought of as notifications. The technology now has the ability to push a notification to your screen in a more advanced way than just getting an E-mail.

**Creating Notifications**

Notifications can be created from simple to complex. In firefox, a notification could be created by using the createnotification() function and passing in the title, body text, and an image. A simple notification such as a Toast using Bootstrap and be done with some javascript while other more complex methods can be done by creating service workers to handle the notifications in the background. It can be important to note that Push Notifications are actually using two different technologies. The ‘Push’ is when the server supplies the message to the worker and then the ‘Notification’ is the part when the worker actually displays the notification to user [Medley, 2019].

**Respecting Privacy**

Most people that recall pop-ups in the past have mixed feelings about but generally, they invoked frustration more than anything. Much like Websites like GoogleMaps requiring your permission to ‘know your location’ a developer should also ensure the user gives their permission to get notifications. Web pages will pop up a permissions box to the user allowing them to approve or deny the notifications. If the user approves it they will get a subscription key. As notifications are in flight to you they are in an encrypted payload which helps to prevent others from reading your notifications [Google Developers, 2019]. To check the user's agreement status a developer could query the read-only Notification.permission property.

**Closing Notifications**

Notifications are a more subtle version of the often hated pop-ups. There are two ways these are improved over the old pop-ups. First as a developer, you can code notifications to allow the user to close them by typically putting standard UI elemental like an ‘X’ in the top right corner. This would be done in Bootstrap by adding a button with the .data-dismiss=”toast” option. The second way developers can prevent getting the ire of their visitors is by adding a time delay to the notification so that it closes automatically after a certain amount of time. For example using Toast from Bootstrap you would adjust the data-delay=”X” option where X is the time in milliseconds. There are times in which, you may not want people to close notifications such as critical errors which you could code by adding the data-autohide=”false’ option [Tutorial Republic, 2019].

**Compatibility Concerns**

Doubling back to subscription keys its important to note that each browser can use any push service they want and that developers have no say in the matter. It could be possible the browser the user has is either too old or refuses to follow industry standards making the push service not compatible with the developed product. There are times when a developer may need to code in workarounds such as with requesting permission to deal with incompatibility. Some older browsers might need to have a callback like Notification.requestPermission();

**Conclusion**

Notification implementations can vary greatly due to their use cases. If you are only sending out marketing messages, the internal contents are not that important to secure but if notifications now contain sensitive information more care will be needed. Also depending if the notifications are being sent just within the context a single webpage or regardless of what page the user is on.

# References

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