Hacking with a Heads Up Display

Creating Usable Security with ZAP



accessible, intuitive, flexible



Usable software leads to a more effective organization.



Usable **security** software leads to a more **secure** organization.



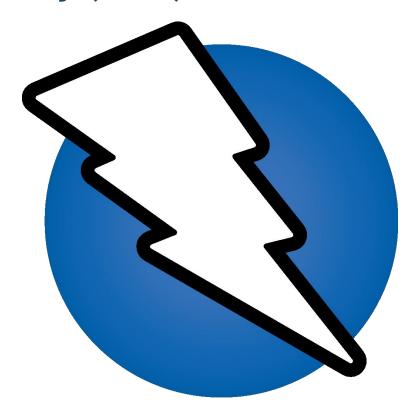
Enabling developers to use security tools will improve the security of your organization.



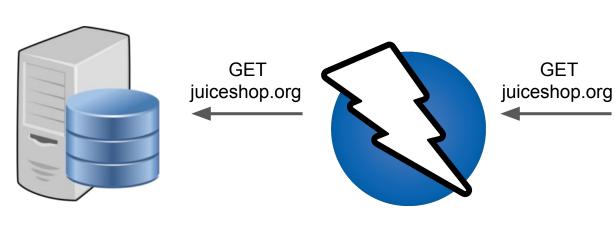
Is your new feature vulnerable to XSS?

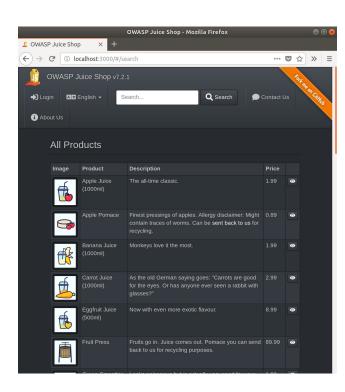


Zed Attack Proxy (ZAP)



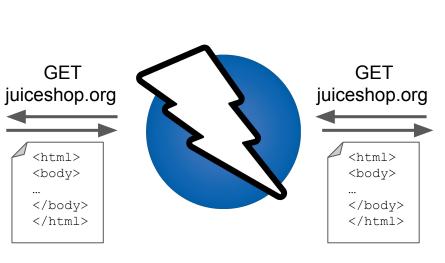


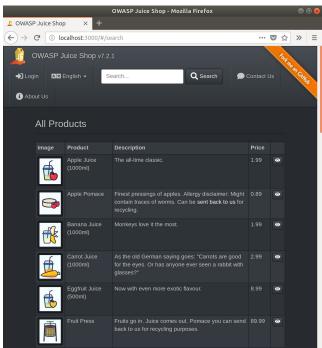




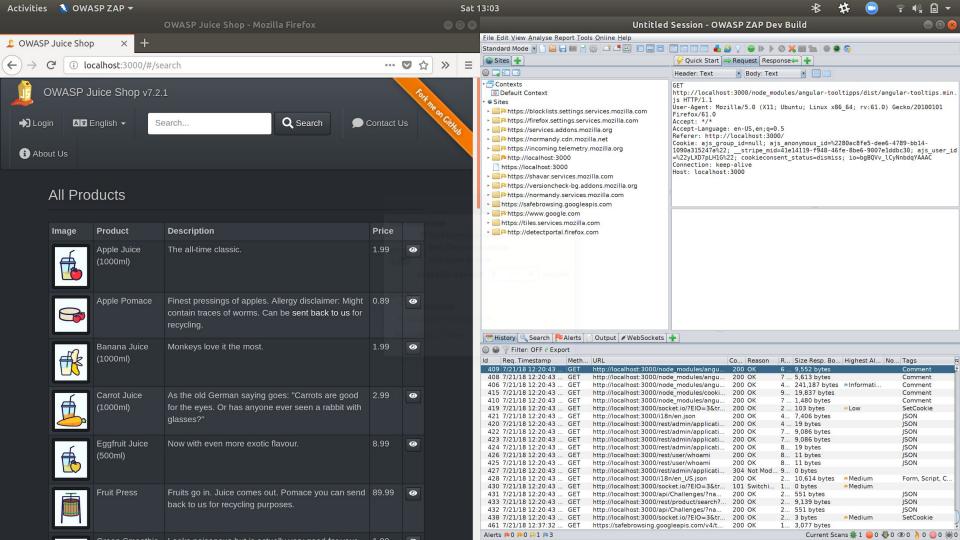








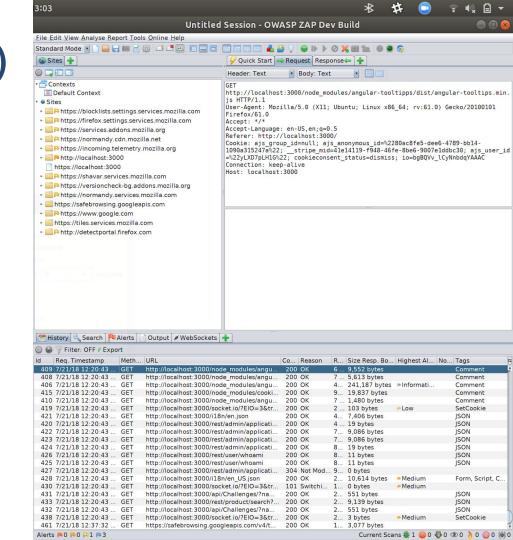




Zed Attack Proxy (ZAP)

- Intercept requests
- Replay requests
- Spider sites
- Fuzz requests
- Passive Scanning
- Active Scanning
 - Command Injection
 - SQLi
 - Remote File Inclusion
 - XSS
 - Redirects
- Encoding/Decoding
- Automation & API
- Scripting
- Robust Add-On Ecosytem
- Automated Authentication & Sessions









ZAP Heads Up Display (HUD)



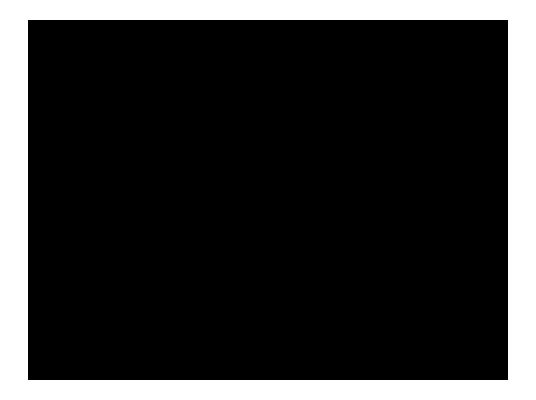




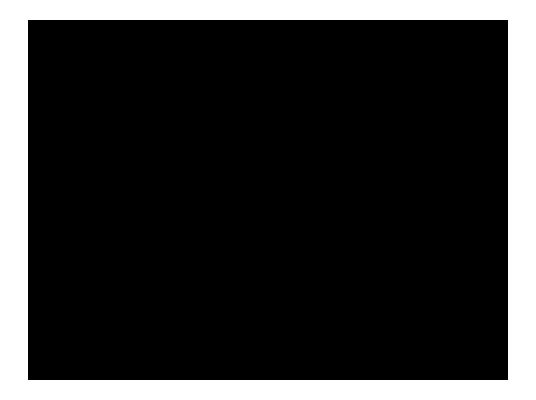




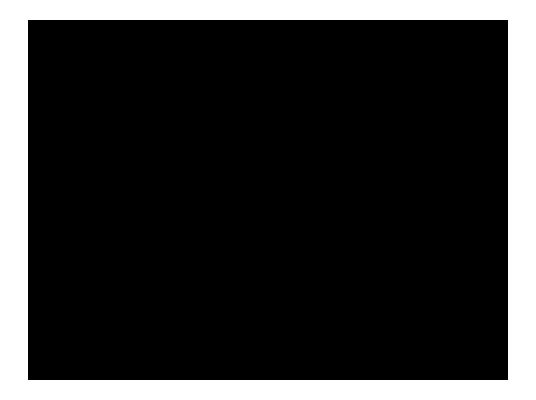










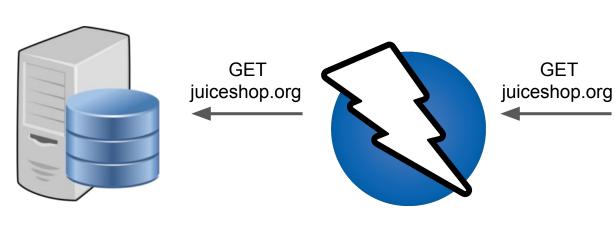


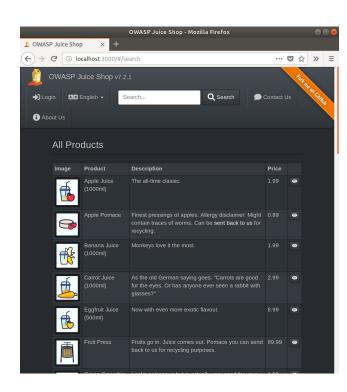


So how does it work?



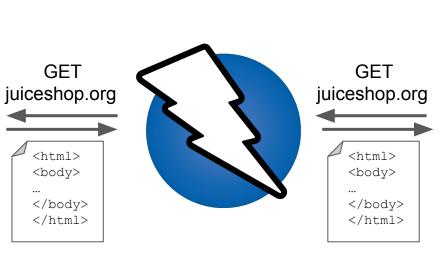


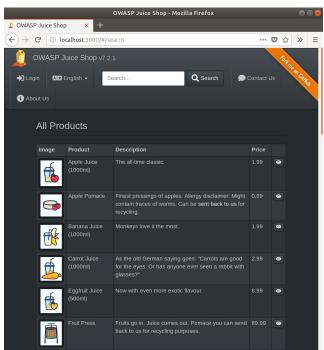






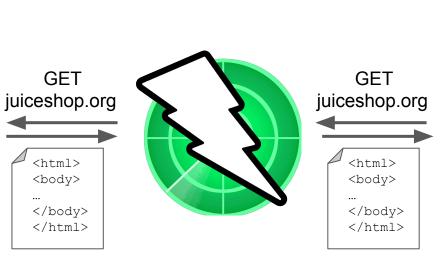


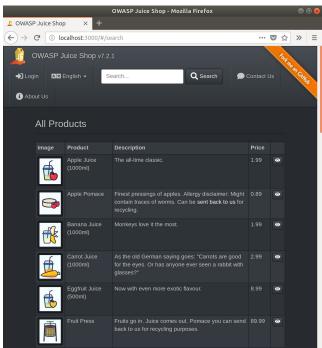




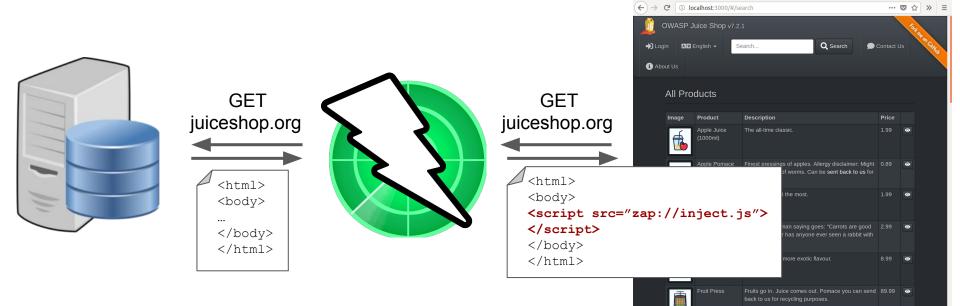












OWASP Juice Shop - Mozilla Firefox

OWASP Juice Shop



injected script

<div class="navbar-header">

```
"content": { "message": "This website uses fruit cookies to ensure you get the juiciest tracking experience.", "dismiss"
})});

</script>

60

</script src="dist/juice-shop.min.js"></script>

62

63 </head>

64

65 </body ng-cloak translate-cloak>

67

68 </nav class="navbar navbar-default" role="navigation">

69 </nav class="container-fluid" ng-controller="NavbarController">

69 </nav class="container-fluid" ng-controller="NavbarController">

69 </nav class="container-fluid" ng-controller="NavbarController">

68 </nav class="container-fluid" ng-controller="NavbarController">

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javascript closure

```
(function () {
    // ... all vars and functions are in this scope only
    // still maintains access to all globals
}());
```



iframes

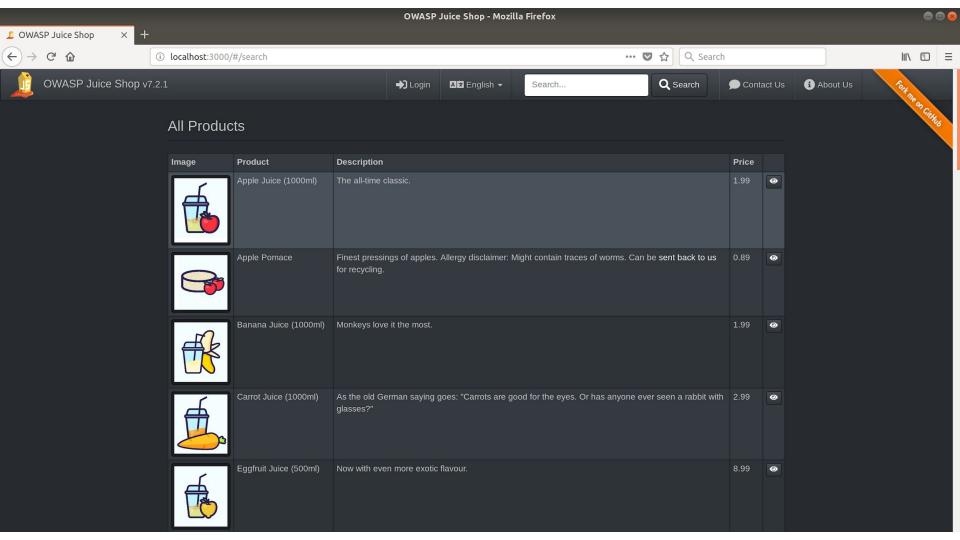
<!--ngView:-->

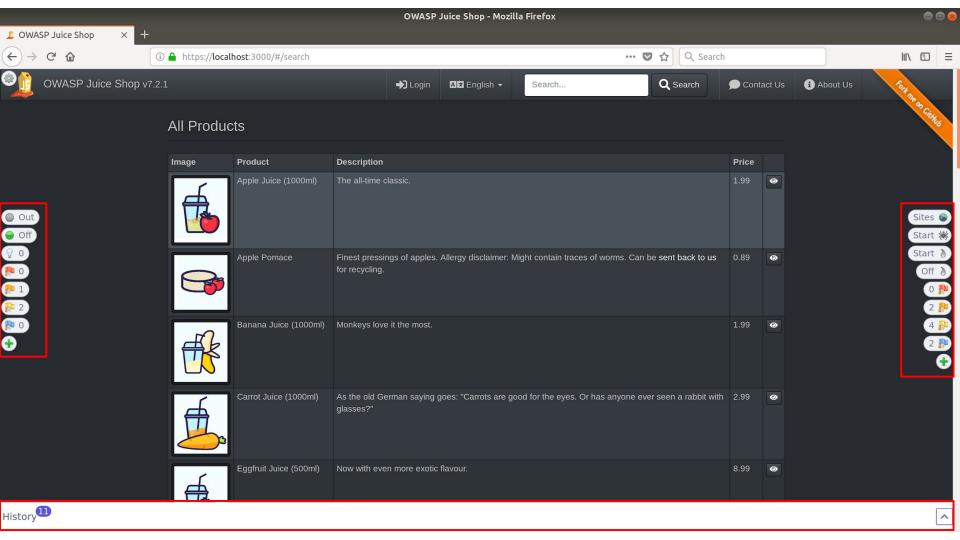
</body>

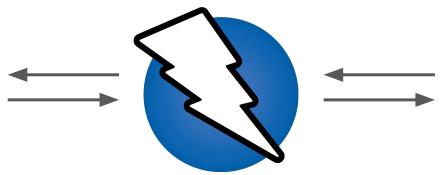
> <main class="container-fluid ng-scope" ng-view=""> - </main>

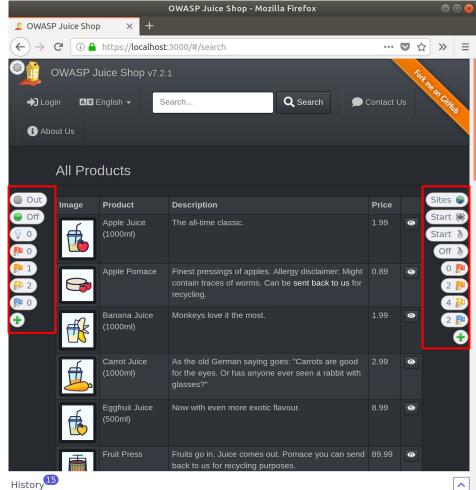
> <a ng-show="gitHubRibbon" href="/redirect?to=https://github.com/bkimminich/juice-shop">(-)

```
<!DOCTYPE html>
<!--[if lt IE 7]> <html lang="en" ng-app="juiceShop" class="no-js lt-ie9 lt-ie8 lt-ie7"> <![endif]-->
<!--[if IE 7]> <html lang="en" ng-app="juiceShop" class="no-js lt-ie9 lt-ie8"> <![endif]-->
<!--[if IE 8]> <html lang="en" ng-app="juiceShop" class="no-js lt-ie9"> <![endif]-->
<!--[if qt IE 8]><!-->
<!--suppress HtmlUnknownAnchorTarget-->
<html class="no-js ng-scope fontawesome-i2svg-active fontawesome-i2svg-complete" ng-app="juiceShop" lang="en"> event
 <!--<![endif]-->
▶ <head> ···· </head>
v<body class="" translate-cloak="" style="margin-bottom: 50px;">
 ▶ <div class="cc-window cc-floating cc-type-info cc-theme-classic cc-bottom cc-right cc-color-override--472785858 cc-invisible" role="dialog" aria-live="polite" aria-
   label="cookieconsent" aria-describedby="cookieconsent:desc" style="display: none;">(...)</div> event
   <script src="https://localhost:3000/zapCallBackUrl/1948308960198560761?zapfile=inject.is"></script>
  <iframe id="management" src="https://zap//zapCallBackUrl/-3885980986985264296?name=management.html" scrolling="no" style="position: fixed; right: 0px; bottom: 50px; width:28px;</p>
   heigh...: border: medium none: overflow: hidden: z-index: 2147483647">[...] </ri>
 > <iframe id="left-panel" src="https://zap//zapCallBackUrl/-3885980986985264296?name=panel.html&url=https://localhost:3000&orientation=left" scrolling="no" style="position:
   fixed: border: medium none: top: 30%: border: medium.left: 0px: width: 110px: height: 300px: z-index: 2147483646:">[...]</ri>
 > <iframe id="right-panel" src="https://zap//zapCallBackUrl/-3885980986985264296?name=panel.html&url=https://localhost:3000&orientation=right" scrolling="no" style="position:
   fixed; border: medium none; top: 30%; overflow: hi...ight: 0px; width: 110px; height: 300px; z-index: 2147483646;">....</iframe>
 > <iframe id="bottom-drawer" src="https://zap//zapCallBackUrl/-3885980986985264296?name=drawer.html" scrolling="no" style="position: fixed; border: medium none; overflow: hidden;
   left...bottom: 0px; width: 100%; height: 50px; z-index: 2147483646;">(-)</iframe>
 > <iframe id="main-display" src="https://zap//zapCallBackUrl/-3885980986985264296?name=display.html" style="position: fixed; right: 0px; top: 0px; width: 100%; height: 100%;
   border: Opx none; display: none; z-index: 2147483647;">(--)</iframe>
 <iframe id="growler-alerts" src="https://zap//zapCallBackUrl/-3885980986985264296?name=growlerAlerts.html" style="position: fixed; right: 0px; bottom: 0px; width: 500px;</p>
   height: Opx; border: Opx none; z-index: 2147483647; "> - </iframe>
   <nav class="navbar navbar-default" role="navigation"> (m </nav
   <hl class="hidden ng-binding" ng-bind="applicationName">OWASP Juice Shop</hl>
   <!-- for SEO-->
```

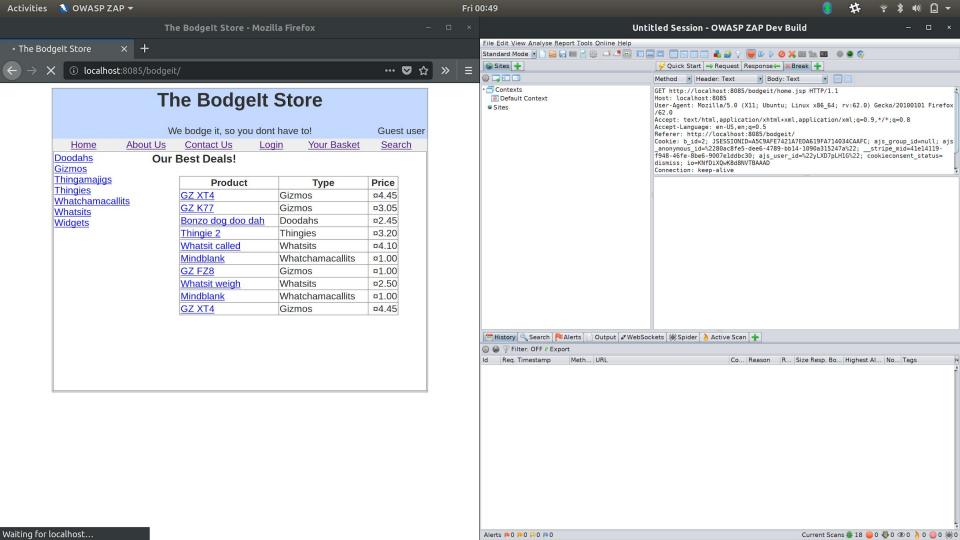


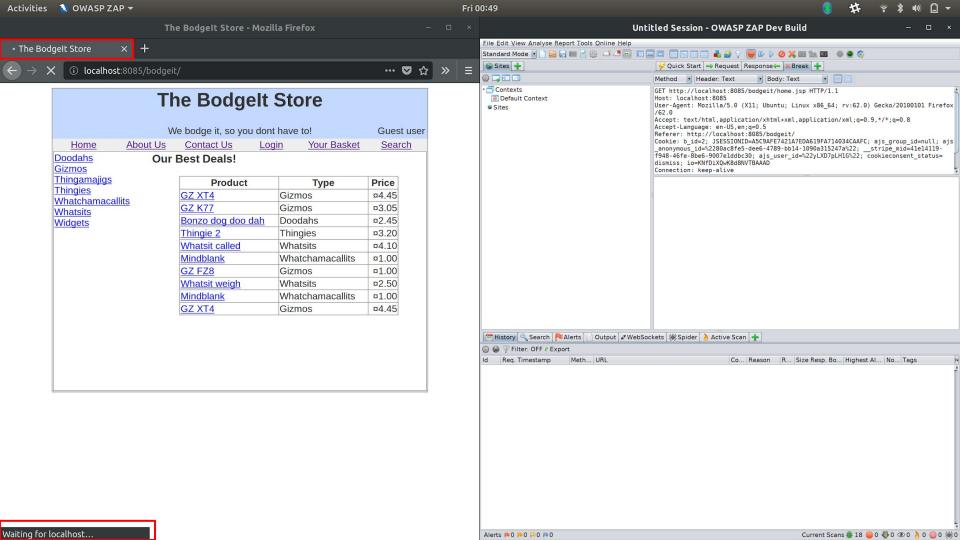


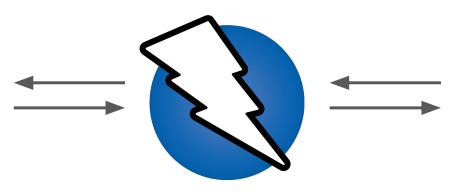


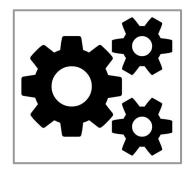




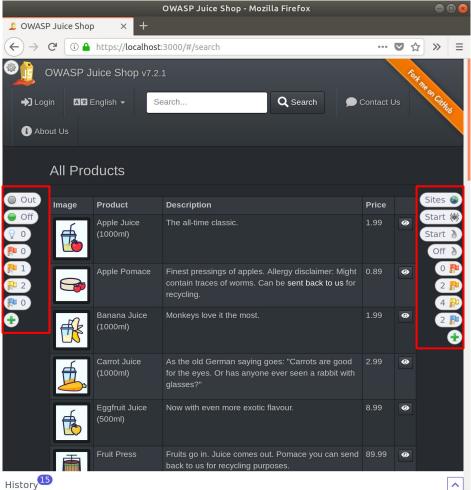




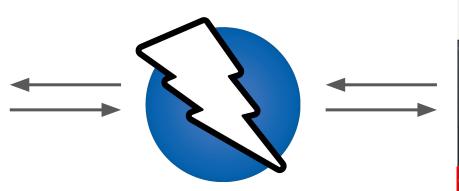


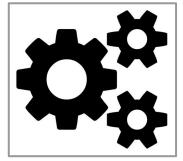


Service Worker

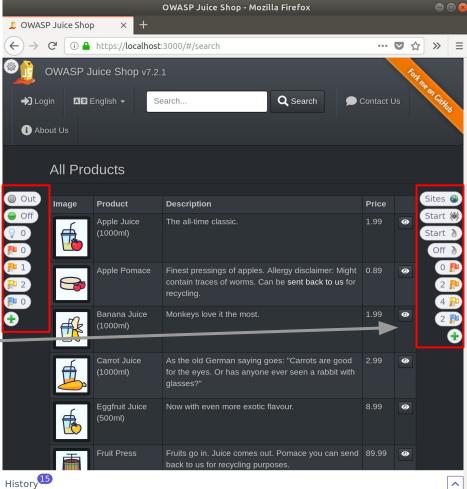






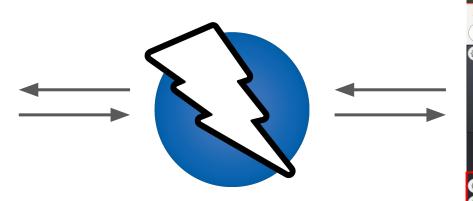


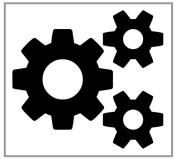
postMessage



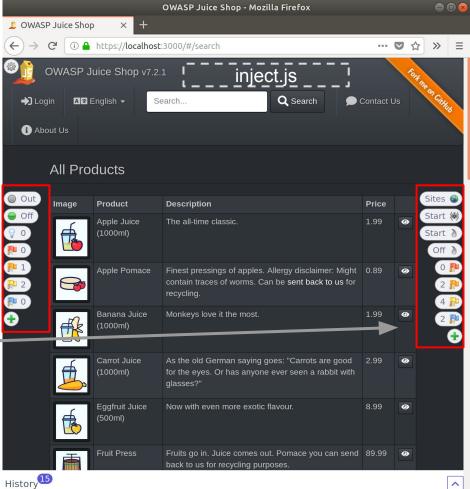


Service Worker



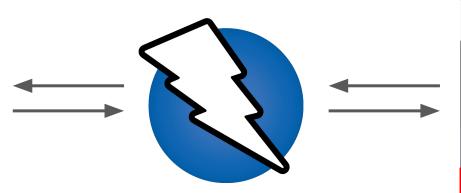


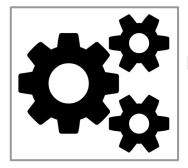
postMessage



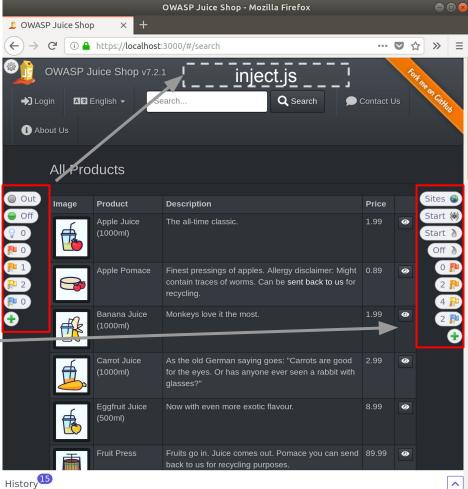


Service Worker



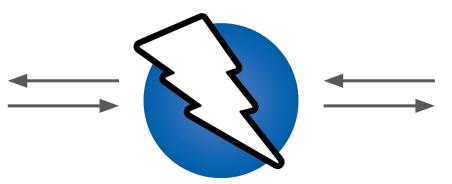


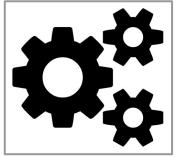
postMessage



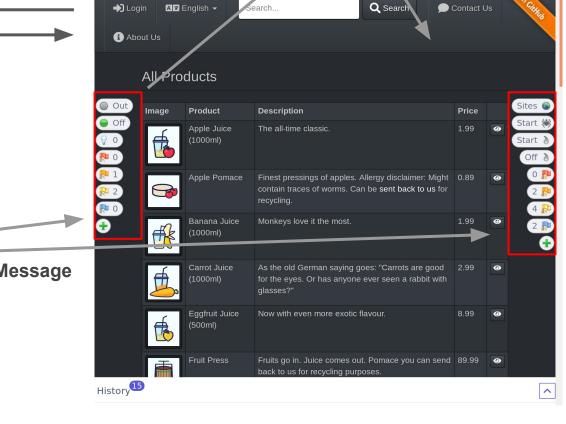


Service Worker









OWASP Juice Shop - Mozilla Firefox

inject.js

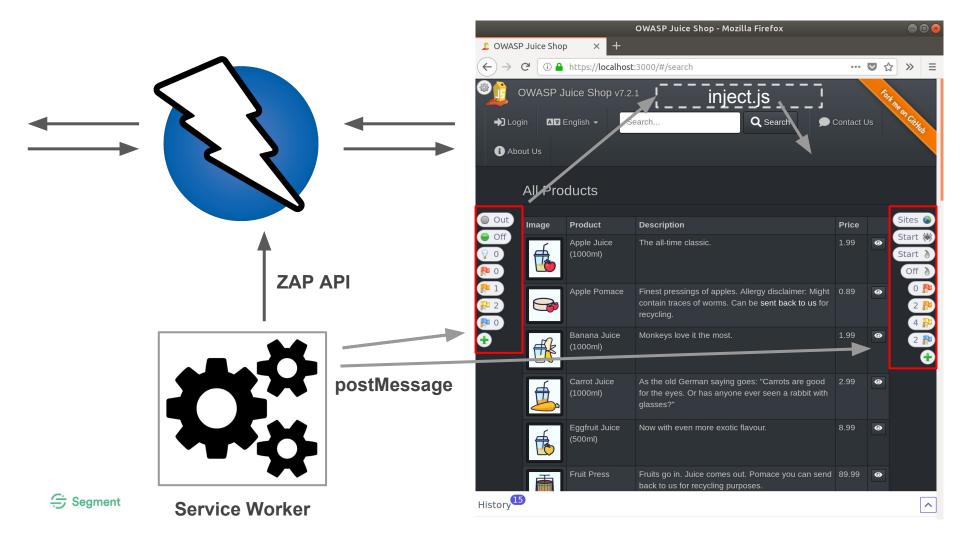
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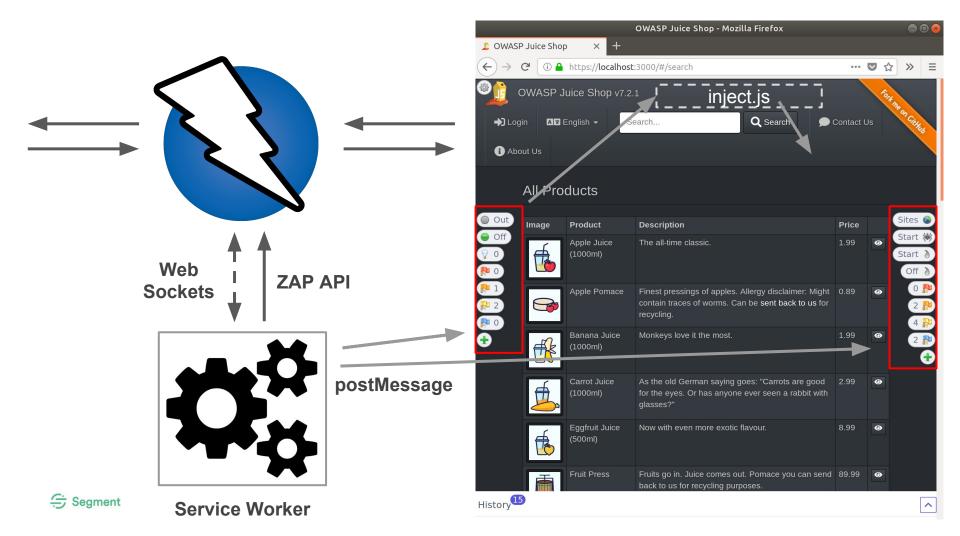
OWASP Juice Shop

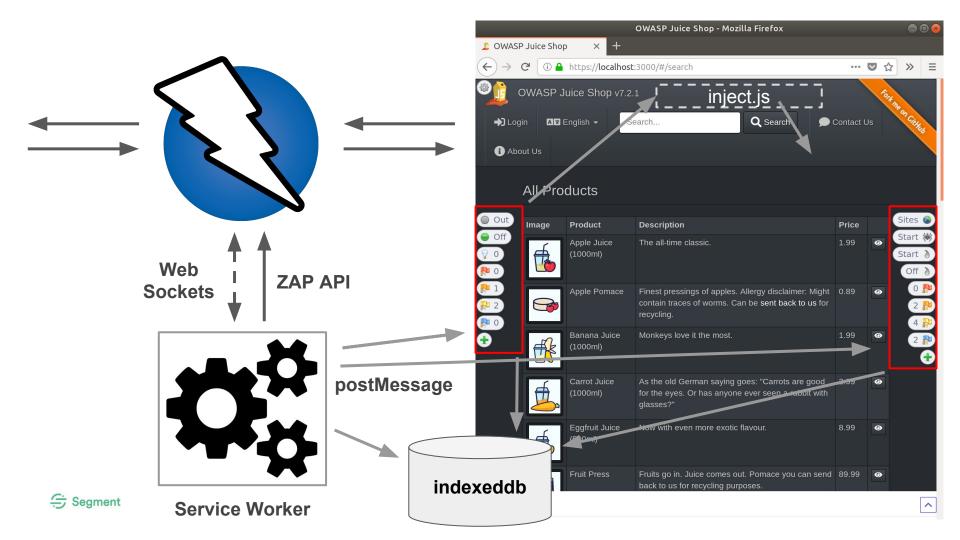
OWASP Juice Shop v7.2.1



Service Worker









Is your new feature vulnerable to XSS?



So now what?

Want to help build the HUD?

Reach out!



Want to support the HUD?

Share!





Want to play with the HUD?

Alpha release (*hopefully*)

Monday

Available in Weekly Release

Or

AddOn Marketplace





Keep up with the HUD

- @david_scrobonia
- @zaproxy

Questions?

