Advanced HTML5

Web Workers

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Outline

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- **Demos**
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What Are Web Workers?

Background threads in the browser

What Are Web Workers?

Background threads in the browser

Dedicated

What Are Web Workers?

Background threads in the browser

Dedicated

Shared

What Are Web Workers?

Background threads in the browser

Dedicated

Shared

Restrictions

- **No Access to**
  - DOM
  - Window (few read-only exceptions)
  - Host page

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Your favorite JavaScript library may not work with workers

Access To

- **Navigator**
  - appName
  - appVersion
  - platform
  - userAgent
- **Timers**
- **XmlHttpRequest**

Browser Support

Chrome
3.0+

Firefox
3.5+

Opera
10.6+

Safari
4.0+

Threading in Internet Explorer

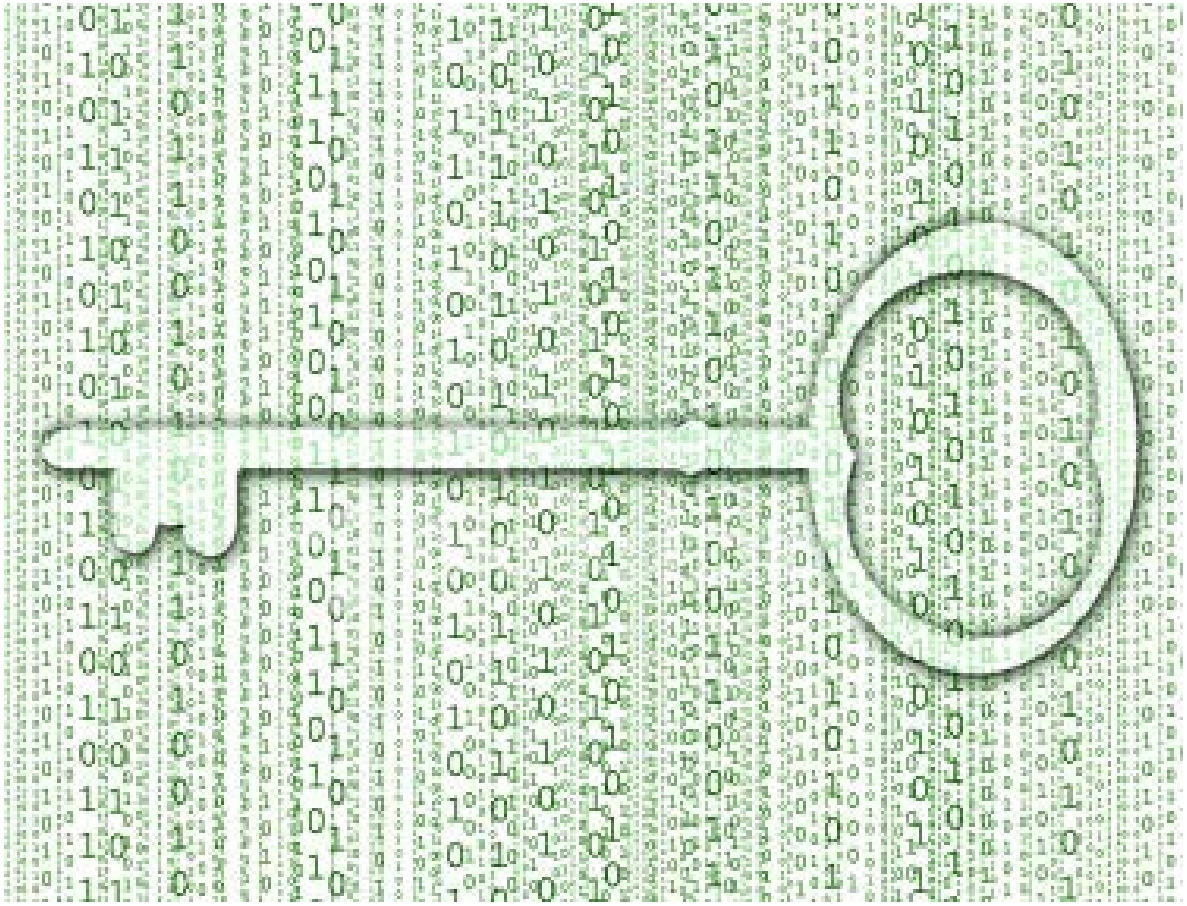
- How to Process Large Volumes of Data in JavaScript
  - http://bit.ly/r5BSTl
- JavaScript Timer-Based Pseudo-Threading
  - http://bit.ly/oiOiLT

Demos

Practical Applications

```
<script src="../scripts/jquery-1.6.2.js" type="text/javascript"></script>
<script>
    var results = [];
    var log;

    $(function () {
        log = $("#log");

        $("#generateButton").click(function () {

            log.html("");

            var seriesLength = parseInt($("#seriesLength").val());

            generateFibonacciSeries(seriesLength);

            $.each(results, function () {
                logMsg(this);
            });
        });

    });
```

Source: http://en.wikipedia.org/wiki/File:Glasses_800_edit.png



$$
\begin{aligned}
\sigma^2 &= \frac{\sum (X-\mu)^2}{N} \\
&= \frac{\sum (X^2 - 2\mu X + \mu^2)}{N} \\
&= \frac{\sum X^2}{N} - \frac{2\mu \sum X}{N} + \frac{N\mu^2}{N} \\
&= \frac{\sum X^2}{N} - 2\mu^2 + \mu^2 \\
&= \frac{\sum X^2}{N} - \mu^2
\end{aligned}
$$


Aaron Marisi
Today
Hey Aaron I hope you have a good night!

Summary

- Workers bring threading to the browser
- Dedicated & Shared workers
- Useful when intensive processing power is required
- Some restrictions

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