

# Fast, modular code with jQuery and RequireJS

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James Burke  
Mozilla Messaging  
<http://tagneto.blogspot.com>  
twitter: jrburke

<http://requirejs.org>



# Who are you?

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- Party in the front!
- Server free
- Historical AOL: Pictures, AIM Express, AIMPages, WebMail, myAOL, AIM Chat
- Dojo Core lead: loader, build system
- Mozilla Messaging: Raindrop
- Front end code assembly, optimization



<http://www.flickr.com/photos/jpasden/67513019/>



# Script Tag Vomit

```
<script src="../js/JQuery.js" type="text/javascript"></script>

<script src="../js/SwfObject.js" type="text/javascript"></script>
<script src="../js/JsLib.js" type="text/javascript"></script>
<script src="../js/Utils.js" type="text/javascript"></script>
<script src="../js/Validation.js" type="text/javascript"></script>
<script src="../js/Personal.js" type="text/javascript"></script>
<script src="../js/SpecialFeatures.js" type="text/javascript"></script>
<script src="../js/Basket.js" type="text/javascript"></script>
<script src="../js/Catalog.js" type="text/javascript"></script>
<script src="../js/Marketing.js" type="text/javascript"></script>

<script src="../js/Search.js" type="text/javascript"></script>
<script src="../js/GlobalSpecialUIInit.js" type="text/javascript"></script>
<script src="../js/BbyMenus.js" type="text/javascript"></script>
<script src="../js/BbyMenuHover.js" type="text/javascript"></script>
<script src="../js/BbyMenuiframe.js" type="text/javascript"></script>
<script src="/js/CartObject.js" type="text/javascript"></script>
<script src="../js/jQueryUI.js" type="text/javascript"></script>
<script src="../Projects/_Content/Headlines/Include/HomeAccordion.js" type="text/javascript"></script>
<script src="/Projects/_Content/Include/CategoryPage/CategoryUI.js" type="text/javascript"></script>

<script src="/js/MenuAdapter.js" type="text/javascript"></script>
<script src="/Projects/Foresee/foresee-trigger.js" type="text/javascript"></script>
```



<http://www.flickr.com/photos/nicasaurusrex/1363221060/>



# Script Tag Vomit

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- Slow
  - > many HTTP requests
  - > blocking render
- Manual Dependencies
- Lacks Encapsulation



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# RequireJS

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- async script tag loader
- call it any time
- encapsulation
- trace nested dependencies
- optimization tool
  - > JS and CSS



<http://www.flickr.com/photos/jjay/112404324/>



# Better Vomit

```
<script src="../js/require-jquery.js"></script>
<script>
require([
  "SwfObject",
  "JsLib",
  "Utils"
  "Validation",
  "Personal",
  "SpecialFeatures",
  "Basket",
  "Catalog",
  "Marketing",
  "Search",
  "GlobalSpecialUIInit",
  ...etc...
]);
</script>
```

- Async
- Even better if each specifies own dependencies



<http://www.flickr.com/photos/jjay/112404324/>



# Best

---

```
<script src="../js/require-jquery.js"></script>
<script>require(["app"]);</script>
```



<http://www.flickr.com/photos/jjay/112404324/>





## Delicious jQuery Sample

<http://requirejs.org/docs/download.html>

<http://www.flickr.com/photos/tracyhunter/140049154/>

# Cash Money FAST

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- On-the-fly loading
- Reduce HTTP Requests  
-> CSS and JS
- Reduce file size via Closure Compiler integration



<http://www.flickr.com/photos/jphilipson/2444879696/>



- For Dev:

```
.../requirejs/build/build.sh baseUrl=. name=app out=app-built.js shallowExclude=jquery.alpha
```

- For Deployment:

```
.../requirejs/build/build.sh baseUrl=. name=app out=app-built.js
```

```
<script src="scripts/require-jquery.js"></script>
<script>
    require(["app-built"]);
</script>
```

<http://requirejs.org/docs/optimization.html>



# Warp Speed

<http://www.flickr.com/photos/xpurpurax/2336739798/>

- CSS Optimization
- @import inlining, url() correction
- comment stripping

```
.../requirejs/build/build.sh cssIn=app.css out=app-built.css
```

<http://requirejs.org/docs/optimization.html>



# Warp Speed

<http://www.flickr.com/photos/xpurpurax/2336739798/>

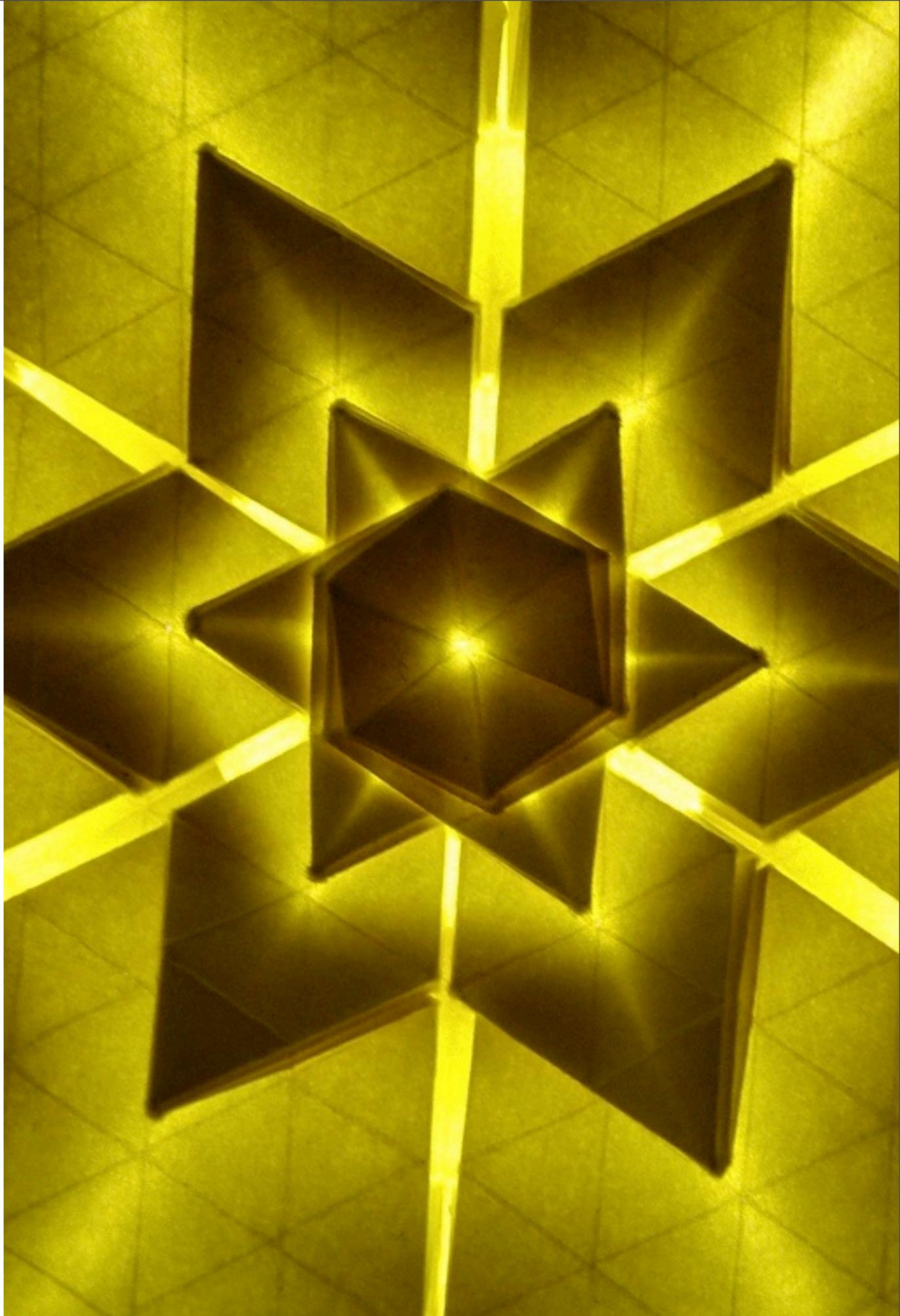
# Modules

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- Strict encapsulation
- Allows multiple versions on a page
- Special jQuery+RequireJS file
  - > <http://requirejs.org/docs/download.html>
  - > domready integration
  - > jquery as a module



<http://www.flickr.com/photos/origomi/62687502/>



# Module Pattern

---

```
(function($) {  
  
    //Extend jQuery  
    $.fn.foo = function() {};  
  
    $(function() {  
        //execute on  
        //page load  
    });  
  
}(jQuery));
```



<http://www.flickr.com/photos/origomi/73209540/>



# RequireJS Pattern

```
require(["jquery"], function($) {  
  
    //Extend jQuery  
    $.fn.foo = function() {};  
  
    $(function() {  
        //execute on  
        //page load  
    });  
  
});
```



<http://www.flickr.com/photos/origomi/73209540/>

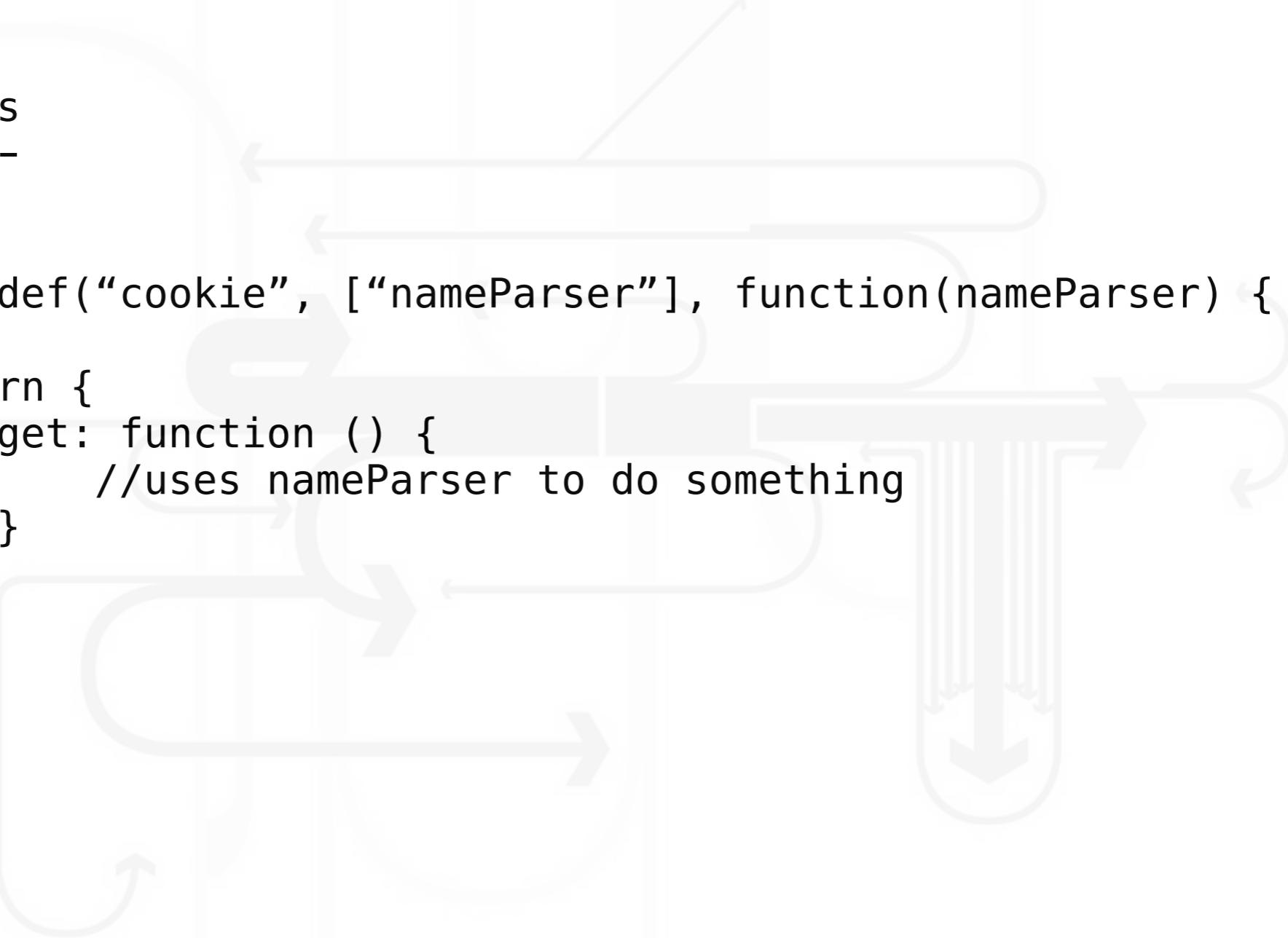


```
require(["jquery", "cookie", "http://some.domain/lib.js"], function($, cookie) {  
    //Extend jQuery  
    $.fn.foo = function() {};  
  
    $(function() {  
        //cookie is a module that uses  
        //require.def() to define itself  
        var state = cookie.get("state");  
  
        //lib is a global defined by lib.js  
        lib.go();  
    });  
});
```



# Dependencies

<http://www.flickr.com/photos/jonathanvlarocca/443069768/>



cookie.js

```
-----  
require.def("cookie", ["nameParser"], function(nameParser) {  
    return {  
        get: function () {  
            //uses nameParser to do something  
        }  
    };  
});
```



# Modules

<http://www.flickr.com/photos/jonathanvlarocca/443069768/>

# Nutritional Facts

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- 3.7 KB Minified/Gzipped
  - > Smallest option 2.6 KB
  - > require-jquery.js 26.9 KB
- i18n/text plugins
- document.write BAD inside modules
- Works in Node, Rhino



<http://www.flickr.com/photos/gentlepurespace/2366729959/>



# Compare LABjs

- Different optimizations:  
Download, do not execute vs  
script combining
- LABjs: preserve script order
- RequireJS: focus on modules,  
but allow existing scripts
- RequireJS: universal module  
loader, Rhino, Node
- Both are better than script tag  
vomit



<http://www.flickr.com/photos/gentlepurespace/2366729959/>



# Compare CommonJS

- Browser is not the primary concern
- Means inferior approaches to code loading in browser
- Format tradeoffs, exports, to me, not as JavaScript



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# jQuery++

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- Encapsulation, do not need everything hanging off \$
- Multiple versions of jQuery in a page!
- jQuery UI
- Built-in optimizer
- No special server required!



<http://www.flickr.com/photos/kelvin255/4487200368/>



ELVIN LOH

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- jQuery
- Mozilla Platform: XUL
- Web: HTML/JS/CSS
- Open Messaging for the Open Web
- We call ourselves MoMo!
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