

JAVASCRIPT

FROM GLOBAL NAMESPACE TO MODULARITY

GLOBAL VARIABLES

```
var x = 5;
```

IMPLIED GLOBAL VARIABLES

```
function impliedGlobal() {  
    x = 2;  
}  
  
function localVar() {  
    var y = 2;  
}  
  
console.log(x); // 2  
console.log(y); // y is undefined
```

LOCAL VARIABLES

```
var x = 5;

function localVar() {
  var x = 2;

  console.log(x); // 2
}

console.log(x); // 5
```

NAMED FUNCTIONS CREATE GLOBAL VARS

```
console.log(globalVar);  
// function globalVar() { ... }  
console.log(localVar);  
// function localVar() { ... }
```

CHAINED ASSIGNMENT

```
function randomFunction() {  
    var a = b = 0;  
}  
  
console.log(a); // undefined  
console.log(b); // 0
```

GLOBAL === BAD?

- Global variables are slow(er) to look up
- Risk of name collisions

“Global variables are a source of unreliability and insecurity.”

PATTERNS

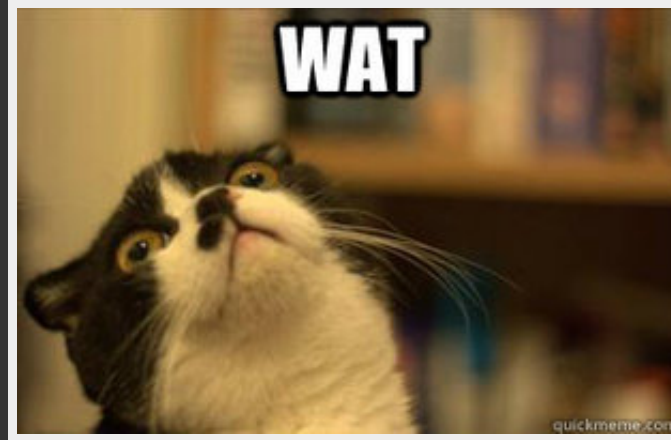
Moving from global namespace pollution towards a modular style.

BASIC ANTI-PATTERN

```
function initSlider() { /* ... */ }  
  
function initModal() { /* ... */ }  
  
function initSearch() { /* ... */ }  
  
$(document).ready(function() {  
    initSlider();  
    initModal();  
    initSearch();  
});
```

- Every function creates a new global variable
- jQuery (\$) attaches itself to the global namespace aswell
- What if a third-party script implements `initSlider()` ;?

IMMEDIATELY INVOKED FUNCTION EXPRESSION (IIFE)



- Part of the solution
- Contain everything within a function's scope
- Variables are local to this function

Create a function and immediately execute it:

```
(function() { alert('Kunstmaan'); }());
```

```
(function ($) {  
  
    var initSlider = function() { /* ... */ };  
    var initSearch = function() { /* ... */ };  
    var initModal  = function() { /* ... */ };  
  
    $(document).ready(function() {  
        initSlider();  
        initSearch();  
        initModal();  
    });  
  
})(jQuery));
```

Slight optimisation by using one var statement

```
(function ($) {  
    var init, initSlider, initModal, initSearch;  
  
    init = function () {  
        initSlider();  
        initModal();  
        initSearch();  
    };  
  
    initSlider = function() { /* ... */ };  
    initSearch = function() { /* ... */ };  
    initModal = function() { /* ... */ };  
  
    $(document).ready(function () {  
        init();  
    });  
}(jQuery));
```

THE MODULE PATTERN

```
var myApp = (function ($) {  
    var init, initSlider, initModal;  
  
    init = function () {  
        initSlider();  
        initModal();  
    };  
  
    initSlider = function() { /* ... */ };  
    initModal  = function() { /* ... */ };  
  
    return {  
        init: init  
    };  
})(jQuery));  
  
$(document).ready(function () {  
    myApp.init();  
});
```


THE MODULE PATTERN

- provides structure
- helps organize your code as it grows
- Combination of techniques:
 - Namespaces
 - IIFE's
 - Private and public members

REVEALING MODULE PATTERN

```
var myApp = (function ($) {  
    var init, initSlider, initSearch, search;  
  
    init = function () {  
        initSlider();  
        initSearch();  
    };  
  
    initSlider = function() { /* ... */ };  
    initSearch = function() { /* ... */ };  
    search      = function() { /* ... */ };  
  
    return {  
        init: init,  
        search: search  
    };  
})(jQuery));  
  
$(document).ready(function () {  
    myApp.init();  
});  
  
$('#btn').click(function () {  
    myApp.search($('#someInput').val());  
});
```

IDEAS

One Kunstmaan namespace with different plugins

- Kunstmaan.FormValidator
- Kunstmaan.Modal
- Kunstmaan.WhosGoingForBroodjes
- Kunstmaan.CatGifGeneratorForIbe

WHY BOTHER?

- Even though jQuery has a large ecosystem, a lot of plugins are bloated or badly written.
- We build what we need and expand on it for future projects, where needed
- We might learn something out of it
- Reusability

EXAMPLE CODE

- `Kunstmaan.Modal`
- `Kunstmaan.FormValidator (CoffeeScript)`

READ / WATCH / DO

- [Idiomatic.js](#)
- [Learn jQuery in 30 Days](#)
- [Codecademy](#)
- [Learning JavaScript Design Patterns](#)

