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2011-02-19

Efficiently creating JavaScript objects: closures versus prototypes

Labels: [dev](#), [javascript](#), [jslang](#)

In “[Closure Versus Prototypal Pattern Deathmatch](#)”, Brendan Eich examines the question whether, when creating objects, the closure pattern or the prototypal pattern is more efficient.

The code below shows the closure pattern for creating objects.

```
function ClosurePattern() {
    this.someMethod = function someMethod() {
        console.log('foo');
    }
}
var closurePattern = new ClosurePattern();
```

The code below shows the prototypal pattern for creating objects.

```
function PrototypalPattern() {}
PrototypalPattern.prototype = {
    someMethod: function () {
        console.log('foo');
    }
}
var prototypalPattern = new PrototypalPattern();
```

Summary of the post:

- Advantages of the closure pattern:
 - You can encapsulate private data.
- Advantages of the prototypal pattern:
 - Going up the prototype chain is highly optimized in most JavaScript engines and happens fast.
 - You save space, because no closure has to be created and `someMethod` is shared between objects (as opposed to added to each object).
 - I also find it more readable: Instance variables are defined in the constructor, instance methods are defined in the prototype.
 - Easier to analyze for tool builders. I feel for them, as they have to handle all of those JavaScript patterns and APIs out there.

Note that things will change in the not-too-distant future, as [ECMAScript Harmony](#) will bring many changes in this area.

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