

OBJECTS EXPOSED

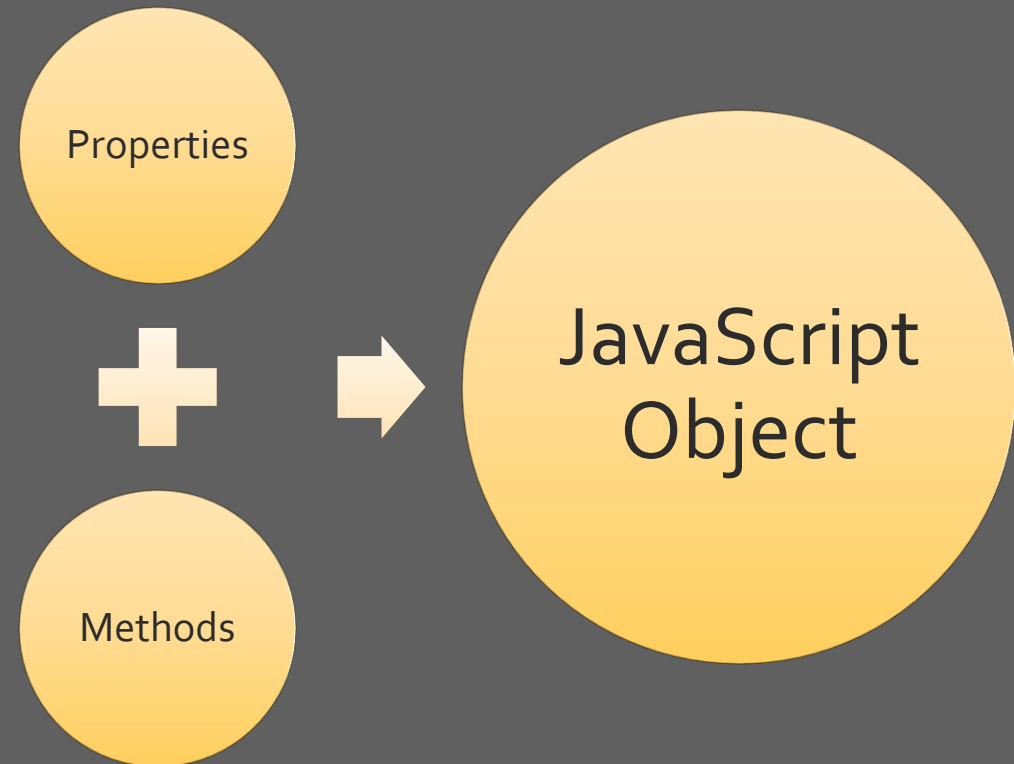
Ultimate JavaScript Objects

INTRODUCTION

- Cover all relevant aspects of Object theory
- Explain OOP
- Compare objects and arrays
- Discuss the many weird and interesting properties of JavaScript objects specifically
- Take a look at the colorful history of JavaScript objects

WHAT IS AN OBJECT?

- An object is a collection of values (properties)
- All properties have a unique key
- Order of properties cannot be trusted
- Some properties can be functions (methods)
- Can sometimes be serialized – or turned into a universal form of data like a string



WHAT IS OBJECT-ORIENTED PROGRAMMING?

- Termed by Alan Kays in the 60's, referring to biological cells
- Objects can be instances of classes
- Classes are like blueprints, objects are like the manufactured goods
- Each instance of a class is independent, has own properties
- JavaScript allows many implementations of OOP without being mandatory
- Useful for solving difficult problems or ones that are hard to conceptualize

WHAT CAN OBJECTS DO?

- Have any number of properties whose values are unique to that object
- Transfer data between functions or even programs
- Group complex data in ways easy for humans to understand
- Possess methods that work based on that object's internal properties
- Have some properties accessible by other objects, some hidden
- Implement nearly all of the collection features found in arrays
- Represent classes that work together in grand and complex ways

WHEN TO USE OBJECTS?

- Collection of properties that all fit together thematically
- Each element has unique key
- Representing identical things inside a list
- Want methods that can operate on self in object-oriented fashion
- Elements in no particular order

OBJECTS VS ARRAYS


Objects

- Can have any number of properties accessible by indexes
- Copied by reference
- Primitive type
- No built in push, filter, etc.
- Order of properties doesn't matter

Arrays

- Can have any number of properties accessible by indexes
- Copied by reference
- Inherits from Object
- Numerous built-in methods
- Order of elements always matters

THE SECRET LIFE OF JAVASCRIPT OBJECTS



JS

- Can borrow methods from other functions using the mysterious *this* keyword
- Inside of objects, special scope applies
- Objects can be initialized by classes, but still have dynamic properties added later
- Are themselves a data-transfer format
- Both arrays and functions inherit from objects

EVOLUTION OF JAVASCRIPT OBJECTS EXPLAINED

- No classes before ES6
- OOP could still be implemented through libraries, manually
- Recently added Freeze, Observe and other interesting object methods
- Many methods based on implementations in Lodash, Prototype.js

CONCLUSION

- JavaScript objects are dynamic and powerful
- Can be used for most database or front-end purposes
- Objects are similar to arrays
- Objects work well when implemented using object-oriented programming
- Copied by reference