

General list of topics

This page contains a list of the topics to be covered.

Programming

- History of Javascript
- Components of a web-page (HTML/CSS/Javascript)
- Javascript consoles (Browsers, Node)
- Core Javascript / DOM / Node extensions
- Numbers / Strings
- Regular expressions and string manipulation
- Arrays
 - Standard methods
 - Arrays as queues/stacks
 - Iteration
 - Higher-order functions (forEach/map/filter/reduce)
- Dictionaries
 - “object literals”
 - Iteration using for-in
 - Iteration via array iteration over the keys
- Functions
 - Definitions and calls
 - Functions as values, closures
 - Using functions to create private scope
 - Functions used for late initialization
 - Functions that rewrite themselves
 - Functions used for init-branching
 - Functions called only once
- Equality gotchas
 - `==` vs `===`
 - `null` vs `undefined` vs `NaN`
- Objects
 - as key/value pairs
 - using `this` in object methods
 - `Object.create` and prototypes
 - Constructors and `new`
 - The value of `this` depends on how a function is called
- Global vs local variables. The global object

- DOM Interaction
 - Loading script in page
 - Timers
 - The DOM tree and manipulating it
 - Events
 - * The Event loop
 - * Handling DOM events
 - * Event bubbling, defaults
 - Introduction to jQuery
- Using XMLHttpRequest
 - Directly
 - Via jQuery
 - JSON
- Design Patterns
 - Components of a design pattern
 - Creational / Structural / Behavioral patterns
 - Creational
 - * Constructor pattern
 - * Module pattern
 - * Singleton pattern
 - * Mixin pattern
 - Structural
 - * Facade
 - * Proxy
 - * Adapter
 - * Flyweights?
 - Behavioral
 - * Observer pattern
 - * Publish/Subscribe pattern
 - * Mediator pattern
 - Architectural: Model-View-Controller patterns
 - Async Patterns
 - * Callbacks
 - * Promises
 - * Throttling

Practices

- Pair programming
- Testing

- Tests first
 - Writing unit tests
 - Writing integrated tests
 - Design small separately testable pieces
 - Testing via node and in browser
 - Stubs, Mocks, Spies
- Code style
 - ESLint rules
- Documentation
 - Markdown
 - JSDoc basics
 - Doccu?
- Version Control Systems
 - Git and GitHub
 - Using GitHub's Issues
- Deployment, Bundling