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