

Web App Development Review + Roadmap

2017

Assignments



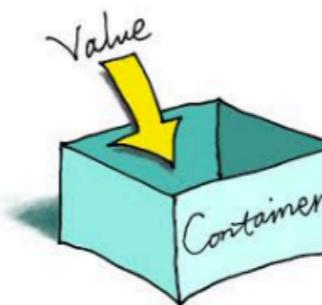
Specifications for Assignments 1 & 2

Gomix: Introduction to Gomix



An introduction to the gomix platform + the very basics of the Javascript Language

JS: Variables, Boolean Logic & Objects



Primitive JS types. Making decisions using selection statements. Simple objects.

Gomix: Controllers + Views



Build your first gomix app, a simple static playlist web site.

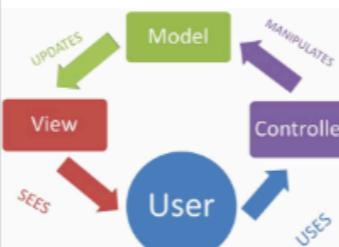
Gomix: Templates + Routes

Template engine



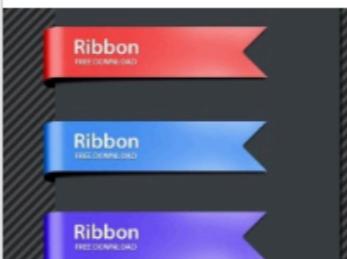
Explore templating in more detail. Enhanced the routing behaviour

Gomix: Model View Controller



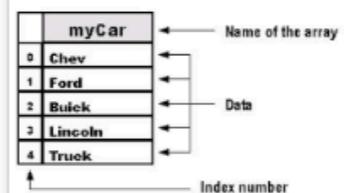
Explore MVC as implemented in Playlist

Gomix: Gomark Solution



The Assignment one - Gomark - application

JS: Arrays



Comparison of an array to a column of data

Gomix: Sessions



In order to implement user account management, sessions provide a mechanism for identifying specific users

JS: Objects



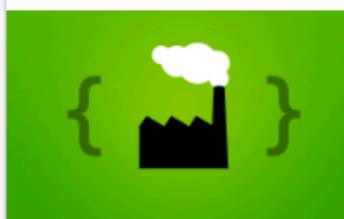
Review structure of javascript objects - and re-examine the Playlist 4 application in detail.

Gomix: Images



How to build an application that enables a user to upload and display images.

JS: Functions & Nested Objects



Assignments



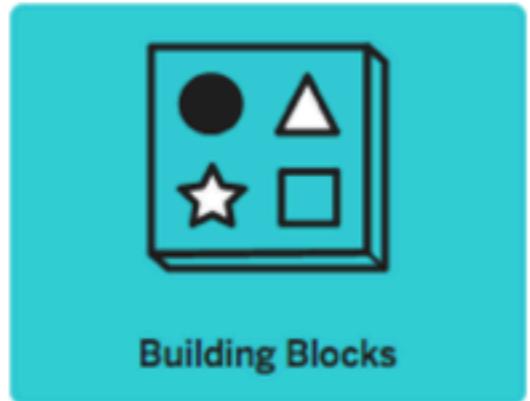
Introduction to Gomix Glitch

Introducing Gomix



What is it, what role it plays, why was it built.

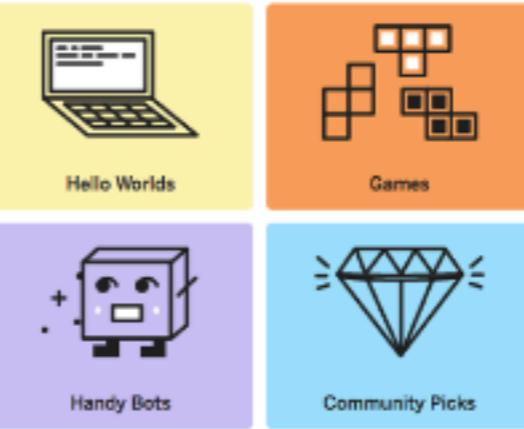
Gomix Tour



Building Blocks

A look at the components of a gomix project. Also types of project will we build?

Gomix Features



The options available in a Gomix project + a an overview of the community projects

JS Introduction



JavaScript

Place javascript in its proper context, and explore its relationship to the browser.

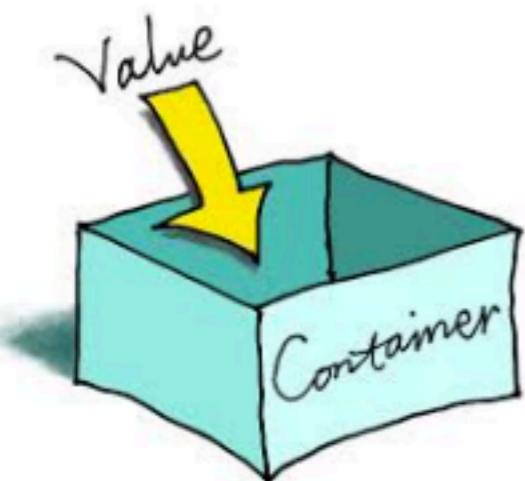
Lab-1 Gomix Intro



Create, modify and view your first Gomix project.

Variables, Boolean Login & Objects

Variables



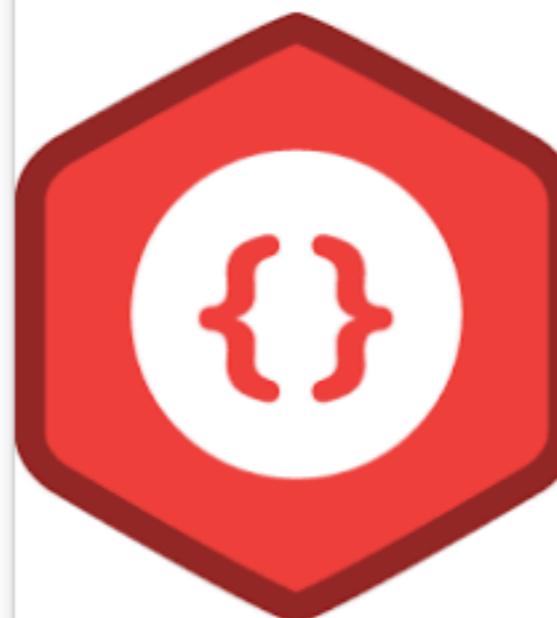
Explore the javascript variables, including the basic types, conversion and usage

Boolean Logic

A large grid of binary digits (0s and 1s) arranged in a pattern that looks like a barcode or a binary representation of text.

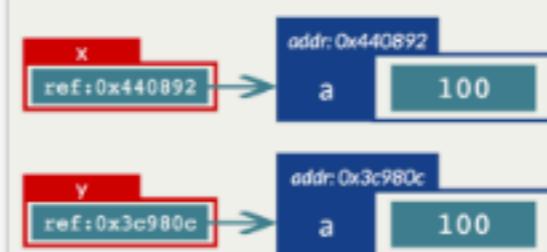
Boolean expressions, operators and selection statements

Const, Let & Objects



Using const & let. Declaring and using objects.

Variables & Objects Review



A concise tour of the structure of variables & objects in Javascript

Lab-2 JS Intro



Background & Tools,
Variables & Boolean Logic

Controllers + Views

Web App Introduction



Structure of a web app:
Front-end Vs Backend.
Routers, Models, Views,
Controllers

Front-end



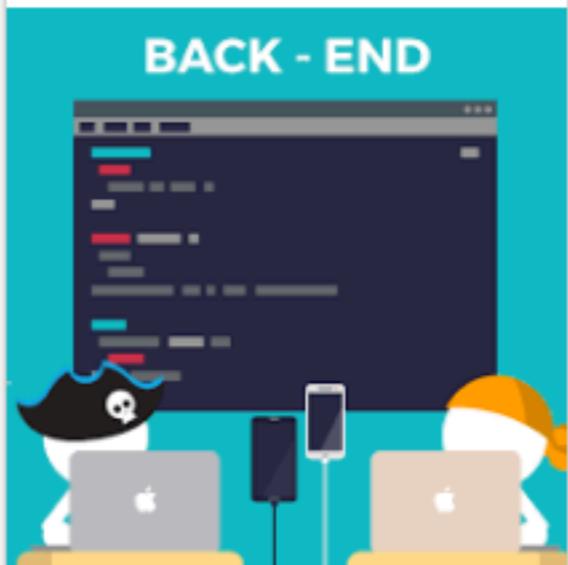
Views: Handlebars layouts,
partials and templates

Modules



The backend will use a
modular approach, relying
on specific mechanism to
import/export shared
objects

Back-end



Server, routes + controllers

Lab-3 Gomix Playlist 1



Import and run a new
starter project. Extend this
project to include multiple
'views'. Explore the
handlebars templating
library.

Templates + Routes

Templates



Template engine



Templates enable dynamic composition of views from layouts, partials and expressions.

Json



```
"playlistCollection": [
  {
    "title": "Beethoven Sonatas",
    "songs": [
      {
        "title": "Piano Sonata No. 3",
        "artist": "Beethoven"
      },
      {
        "title": "Piano Sonata No. 7",
        "artist": "Beethoven"
      },
      {
        "title": "Piano Sonata No. 10",
        "artist": "Beethoven"
      }
    ]
},
```

JSON is notation for representing javascript objects in a simple literal format.

Dashboard



Beethoven Sonatas

Song	Artist
Piano Sonata No. 3	Beethoven
Piano Sonata No. 7	Beethoven
Piano Sonata No. 10	Beethoven

Beethoven Concertos

Song	Artist
Piano Concerto No. 4	Beethoven
Piano Concerto No. 4	Beethoven
Piano Concerto No. 6	Beethoven

Review the dashboard controller in detail.

Playlist



Beethoven Sonatas

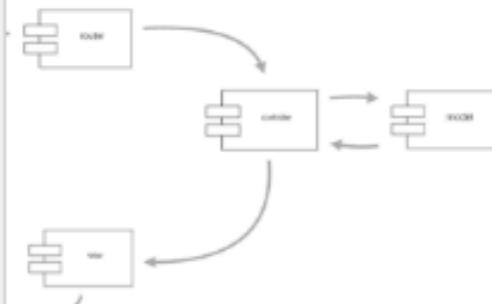
Song	Artist
Piano Sonata No. 3	Beethoven
Piano Sonata No. 7	Beethoven
Piano Sonata No. 10	Beethoven

Beethoven Concertos

Song	Artist
Piano Concerto No. 4	Beethoven
Piano Concerto No. 4	Beethoven
Piano Concerto No. 6	Beethoven

Revise the Dashboard to render playlist without their contents. Use a new playlist view renders individual playlists

MVC



Explore the MVC Pattern in action in Playlist 2

Lab-4 Gomix Playlist 2



Refactor the dashboard controller to show summary on of the playlists + link to show playlist details.

Model View Controller

Module View Controller

The diagram illustrates the MVC (Model View Controller) pattern. At the center is a blue circle labeled "User". Four arrows point towards it from the four sides:

- A green arrow from the top-left labeled "UPDATES" points to a green box labeled "Model".
- A purple arrow from the top-right labeled "MANIPULATES" points to a purple box labeled "Controller".
- A red arrow from the bottom-left labeled "SEES" points to a red box labeled "View".
- A blue arrow from the bottom-right labeled "USES" points to the "User" circle.

MVC is the guiding principle for the structure of our application.

Delete Song

Artist

Beethoven	<input type="button" value="Delete Song"/>
Beethoven	<input type="button" value="Delete Song"/>
Beethoven	<input type="button" value="Delete Song"/>

How to remove a song from the playlist

Forms Design

Form

How a form UI is laid out in HTML using Semantic UI

Form Programming

How to accept user input from a form and process it in a controller

The Store

The Playlist are ultimately stored in a JSON file. This file is managed by database modules.

Lab-5 Gomix Playlist 3

Enable Songs and Playlists to be added via simple forms.

Gomark Solution

Gomark V1



Ribbon
FREE DOWNLOAD

Ribbon
FREE DOWNLOAD

Ribbon
FREE DOWNLOAD

A worked solution to gomark V1

Arrays: Basics



arraysmall[1] → [“Elves”, “Goblins”, 101.289, {1, 2, 3}, “Merlin”]

arraysmall[4] ↓

arraysmall[0] ↑

Creating, accessing, adding to and removing from arrays.

Lab-gomark-1



Implement version 1 of the Gomark assignment.

Arrays

Array Methods



Exploring length, slice, concat, join, indexOf, lastIndexOf

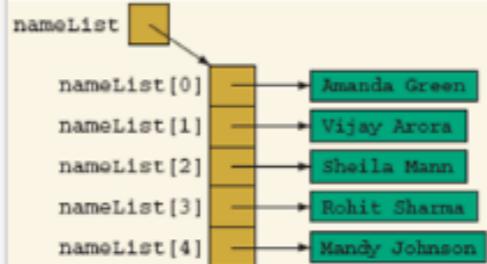
Array Iteration

Flow of "for" Loop

```
for [initialization; condition; increment++/decrement--]
{
    [Execute Code]
    [Console.WriteLine("Hello World")]
}
[Cover of the loop]
```

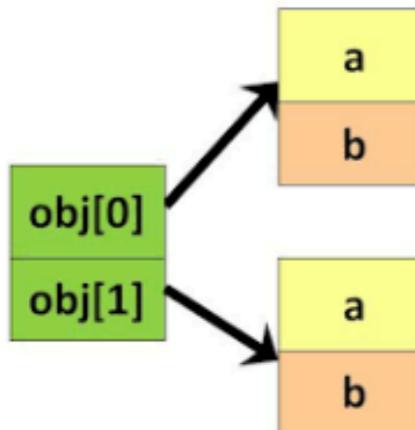
Using for, while and do-while to iterate over an array

Arrays of Strings



A review of the structure of arrays of Strings

Arrays of Objects



Arrays of more complex data structures, including nested objects.

Lab-6 JS Arrays

	myCar	Name of the array
0	Chev	Data
1	Ford	
2	Buick	
3	Lincoln	
4	Truck	

Comparison of an array to a column of data

Array Basics, Array Methods & Iteration

Lab-gomark-2



Github Repo

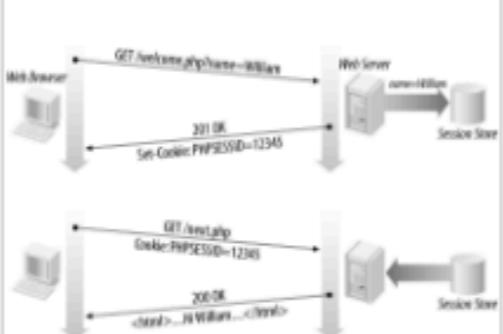
Sessions

Sessions Introduction



Keeping track of the currently logged in user is a challenge - as HTTP is, by definition 'stateless'. Hidden form fields, url rewriting and cookies are three common techniques for implementing sessions.

Using Sessions



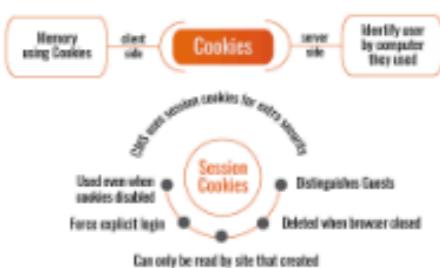
Explore how we need to refactor the application to support sessions

Sessions UX



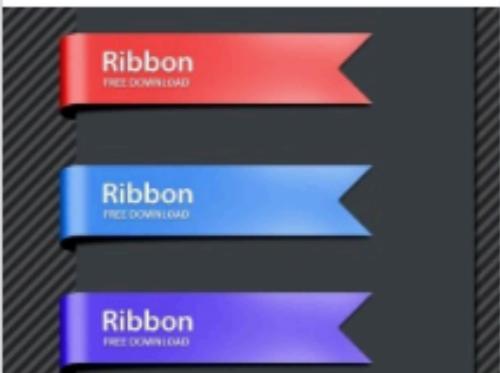
New forms needed to enable the user to signup / login

Creating Sessions



The API to create, access and destroy sessions.

Gomark V3



Gomark V3 Review

Lab-gomark-3



Final version of the Assignment 1 Gomark application

Lab-8 Gomix Sessions

Playlist 4

Log-in

Email

homer@simpson.com

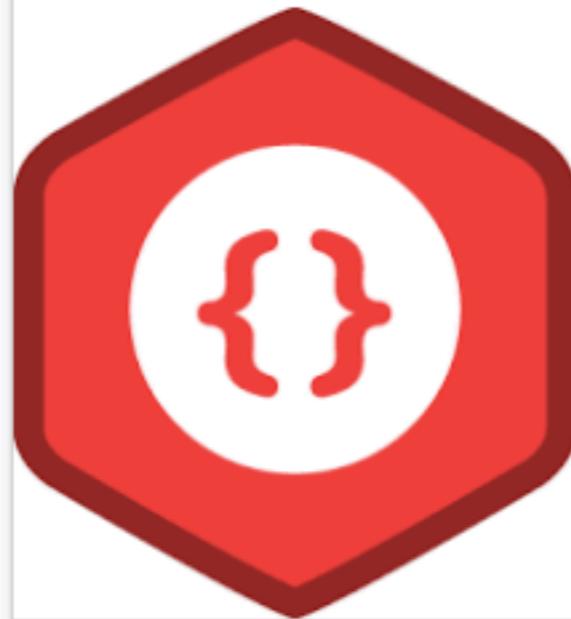
Password

Login

Introduce Sessions onto the Playlist application, enabling user accounts and cookie-based authentication.

Objects

JS Objects



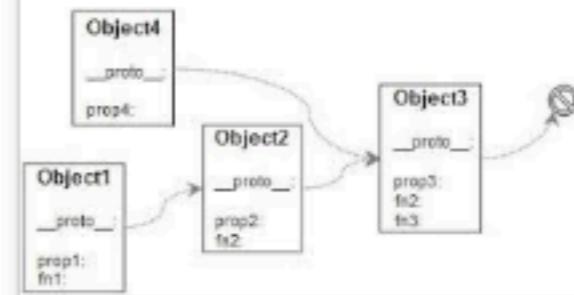
Review the structure,
syntax and access rules for
Javascript Objects

Playlist 4 Review



Walk through the Playlist 4
application in detail

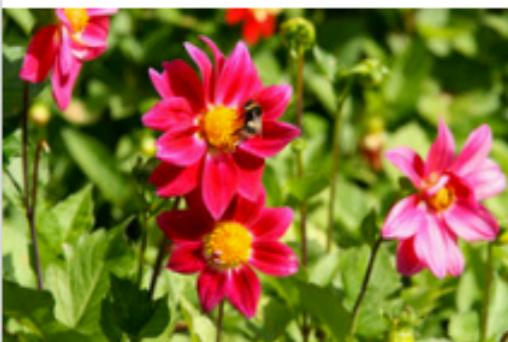
Lab-9 JS Objects



Object basics and Object
iteration.

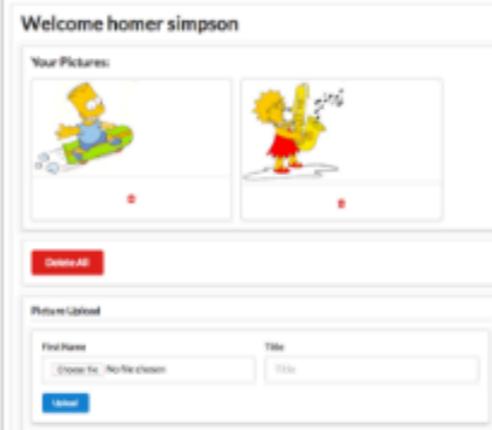
Images

Cloudinary API



The fundamentals of the cloudinary service + API

Picture-store App



A review of the UX of the picture-store app

Picture-store Implementation



The gomix app implementation.

Lab-10a Cloudinary Setup



Sign up and configure a Cloudinary Account.

Lab-10b gomix-picture-store



```
back-end +
├── .env
├── .gitignore
├── .jscsrc
├── controllers/about.js
├── controllers/accounts.js
├── controllers/dashboard.js
├── controllers/start.js
├── models/json-store.js
├── models/picture-store.js
├── models/user-store.js
├── models/user-store.json
├── package.json
├── README.md
├── routes.js
└── server.js
└── utils/logger.js
```

Build an application the can facilitate upload and display of images in Gomix.

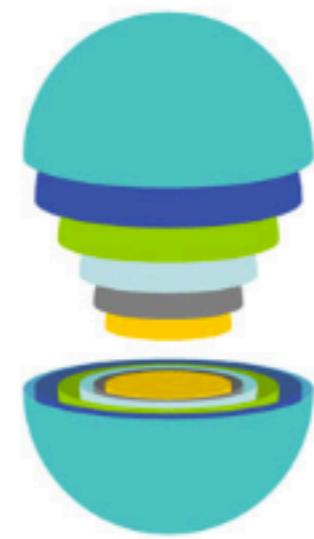
Functions & Nested Objects

Functions



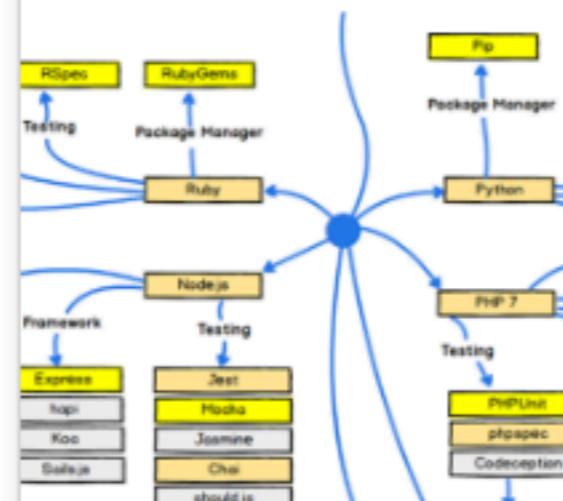
Function return values,
scope and structure

Nested Objects



How more complex data
structures can be
constructed.

Review + Roadmap



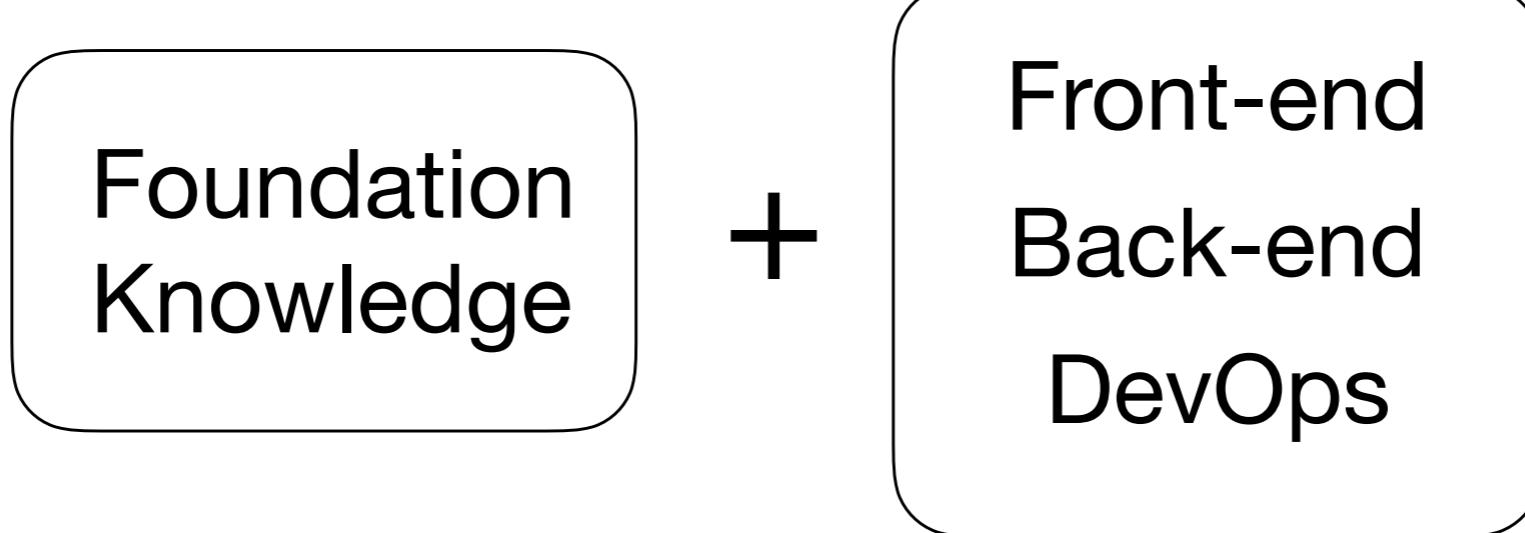
A review of the course and
a peek into the future of
your learning

Lab-11 Functions



Functions basics, function
parameters & scope

A roadmap to becoming a web developer in 2017



<https://github.com/kamranahmedse/developer-roadmap>

Foundation Knowledge

Git - Version Control

SSH

HTTP/HTTPs and APIs

Basic Terminal Usage

Learn to Research

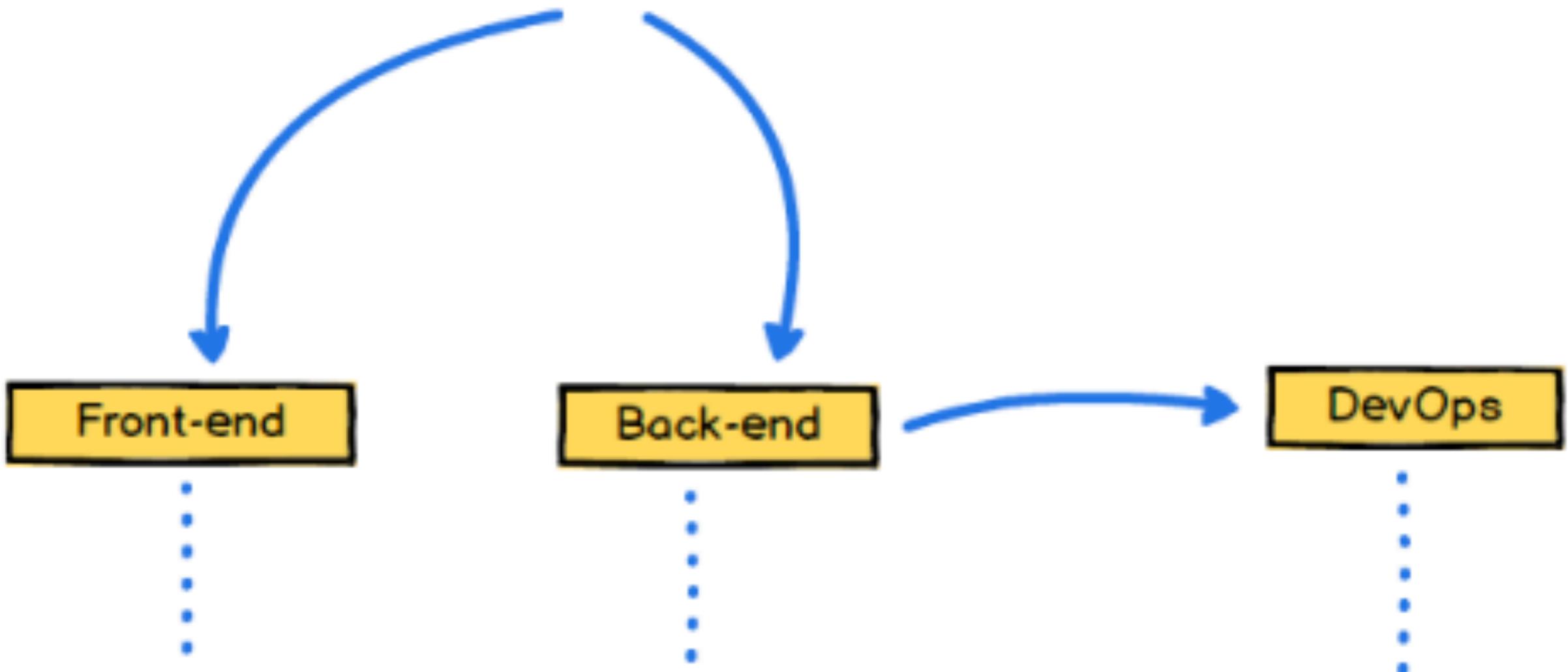
Datastructures & Algorithms

Character Encodings

Github

Create your profile. Explore the relevant opensource projects. Make your habit to look under the hood for the projects you like. Create and contribute to opensource projects.

Choose your path



Front-end + Back-end + DevOps == Full Stack

Front-end

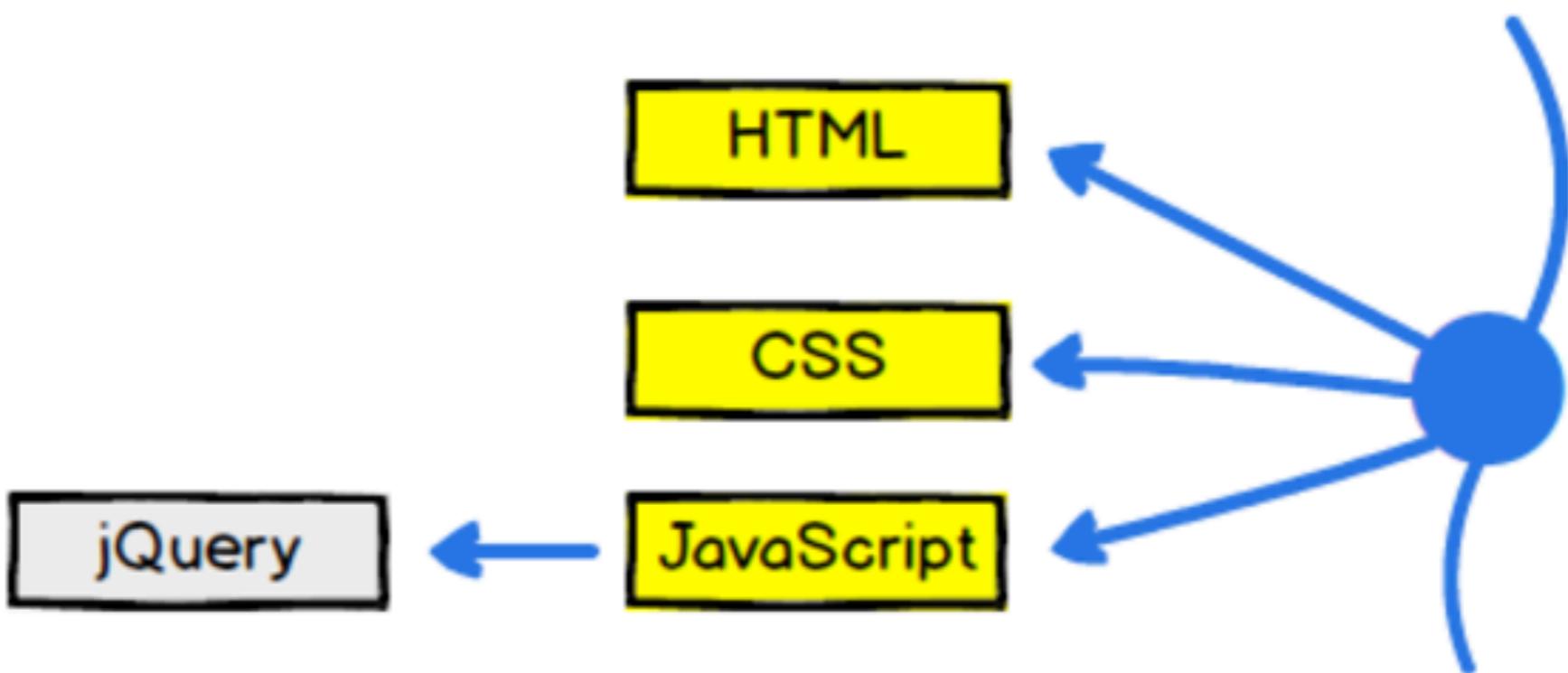
Basics

CSS Frameworks & Processors

JS Client Frameworks + Tools

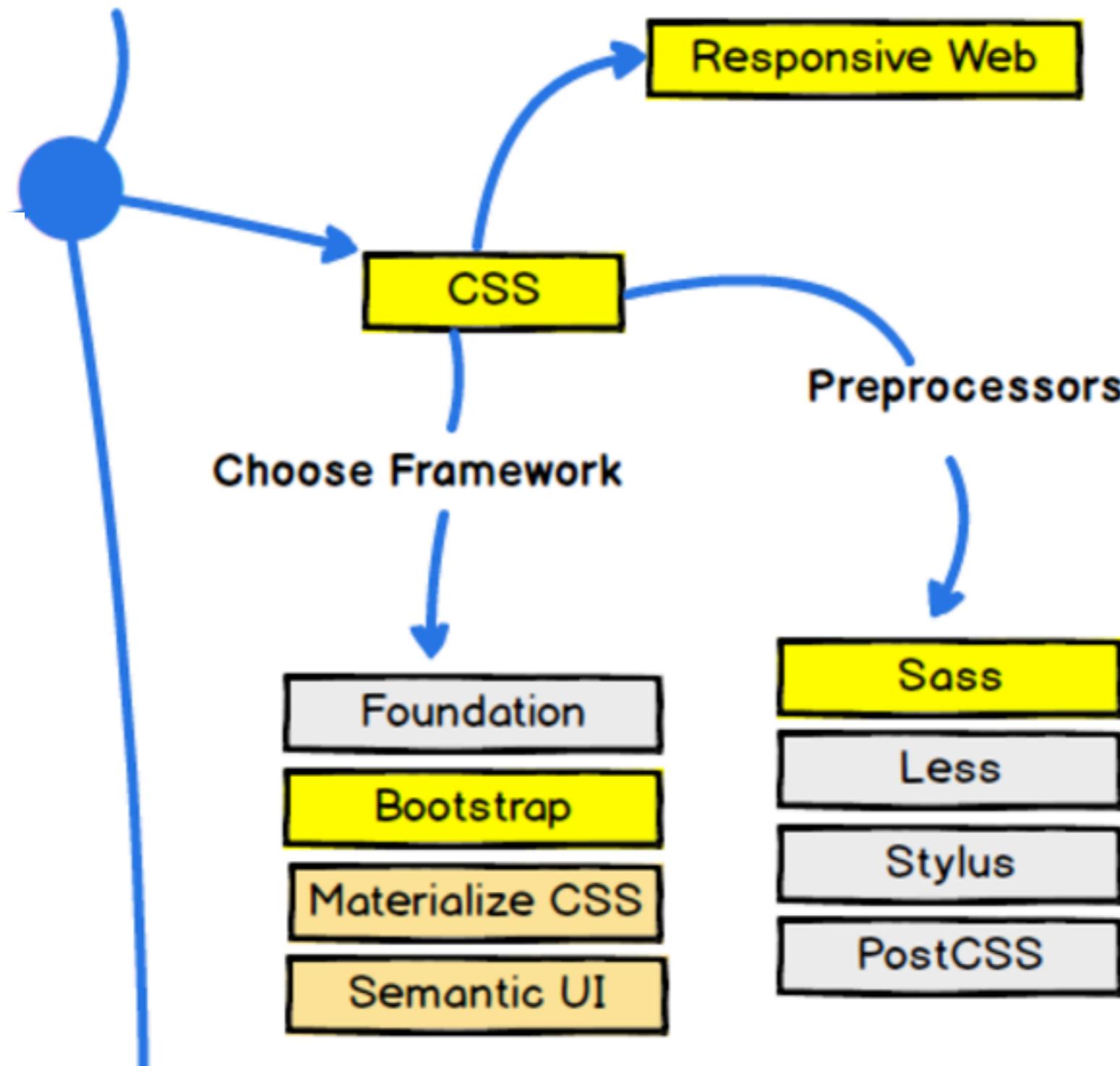
CSS Mastery, Graphics & Visualisation

Front-end: Basics

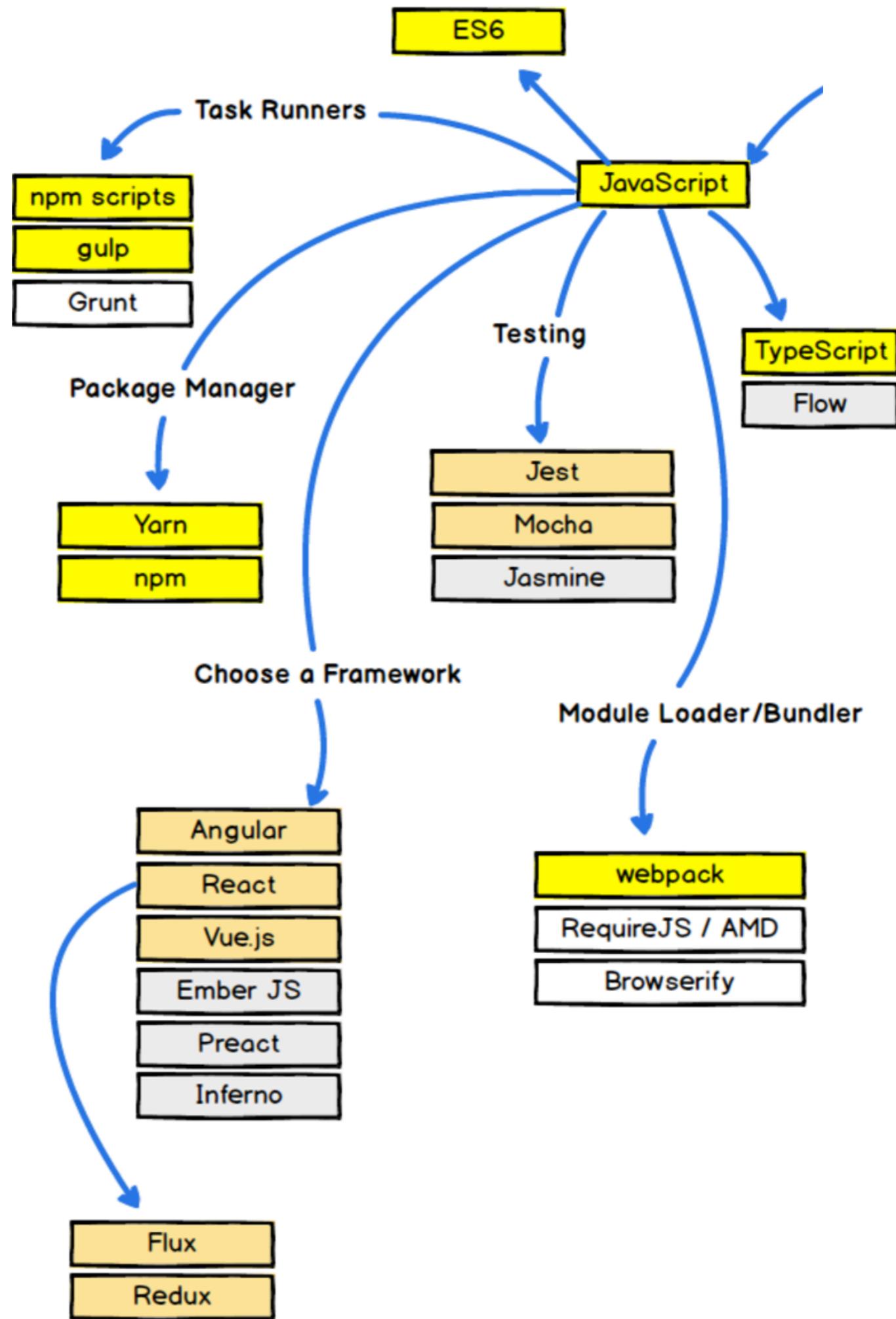


Front-end: CSS Frameworks & Processors

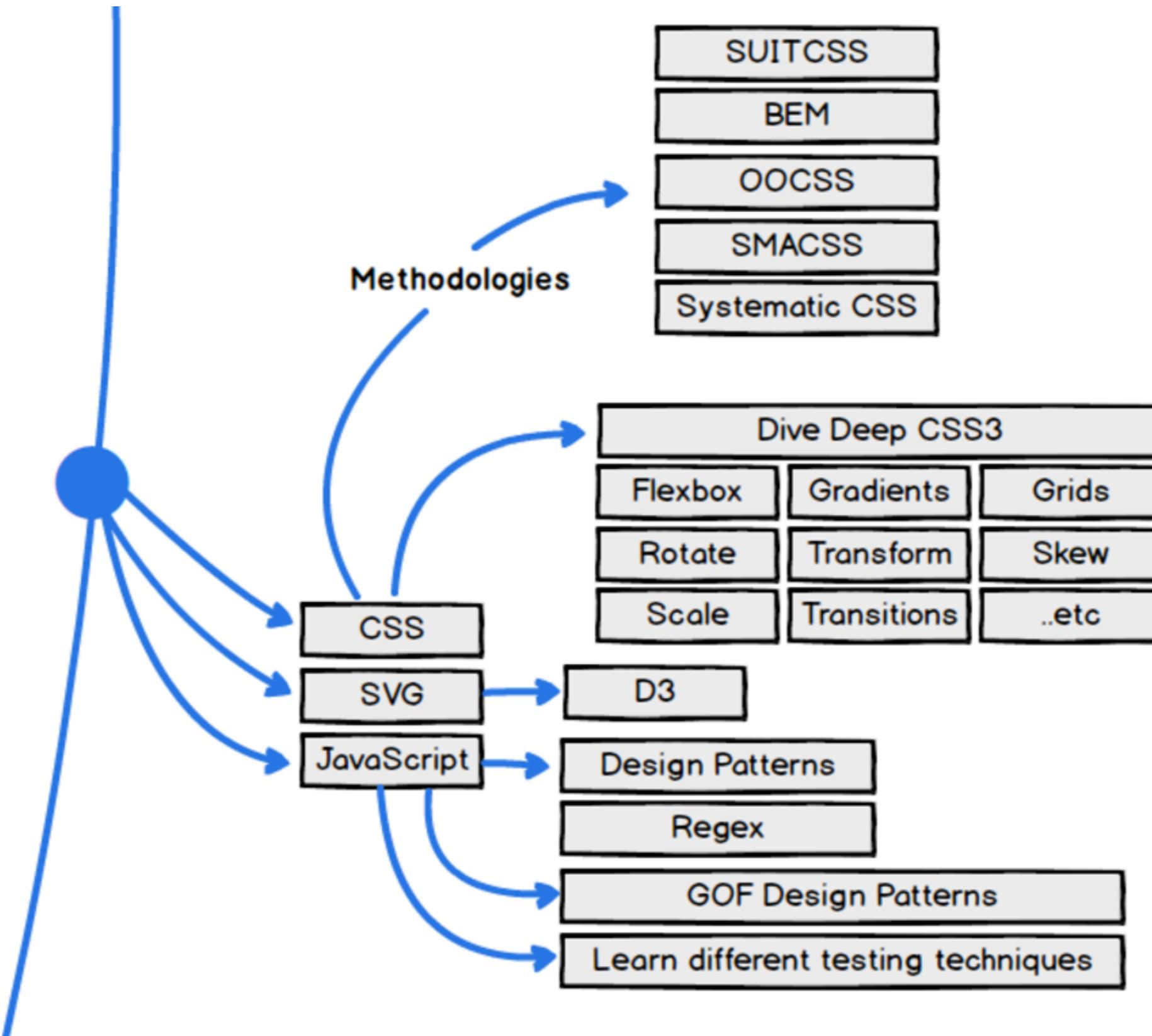
Getting Deeper



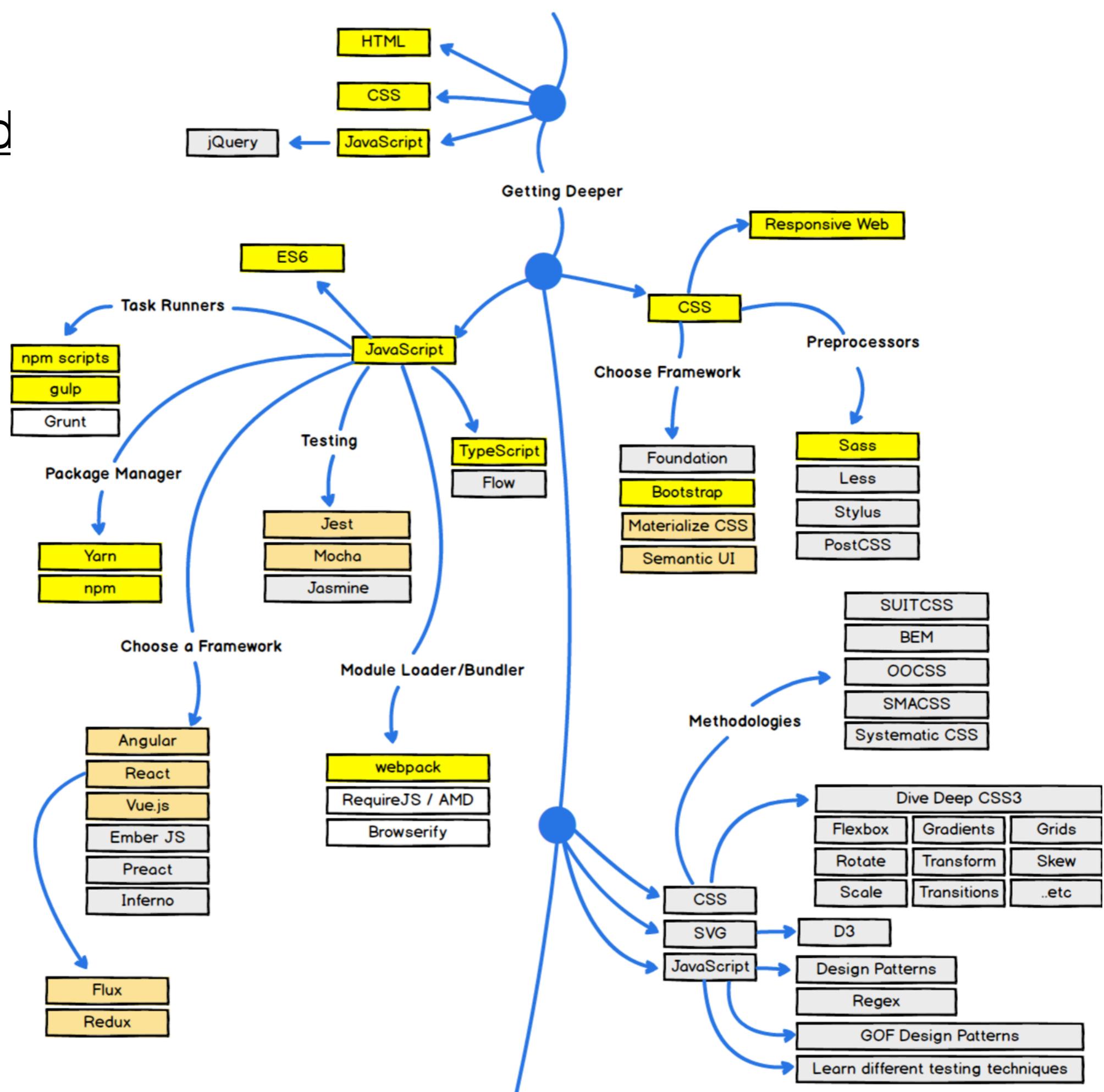
Front-end: JS Client Frameworks, & Tools



Front-end: CSS Mastery, Graphics & Visualisation



Front-end



Back-end

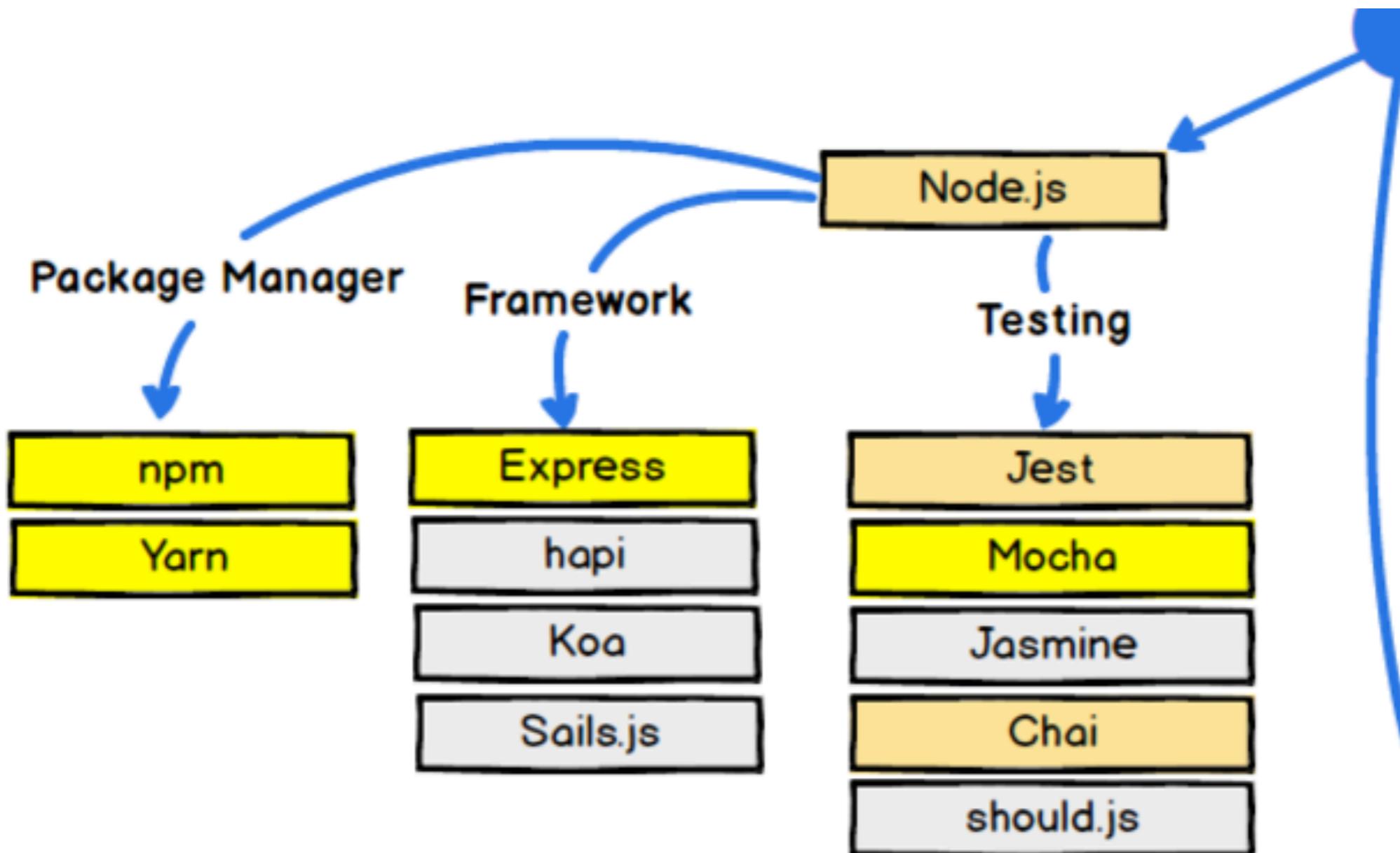
Node.js

Infrastructure + Key Techniques

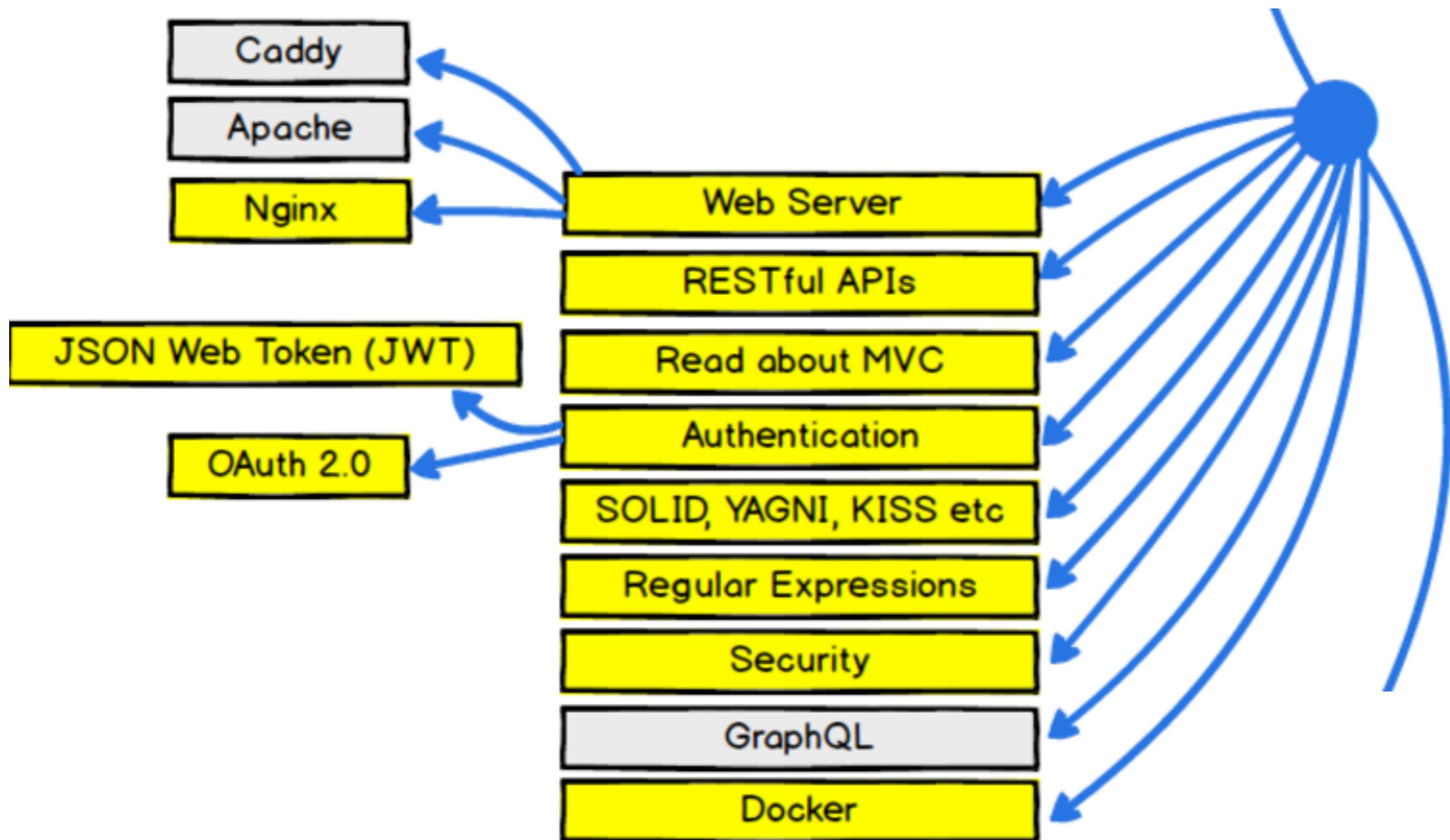
Database

Patterns

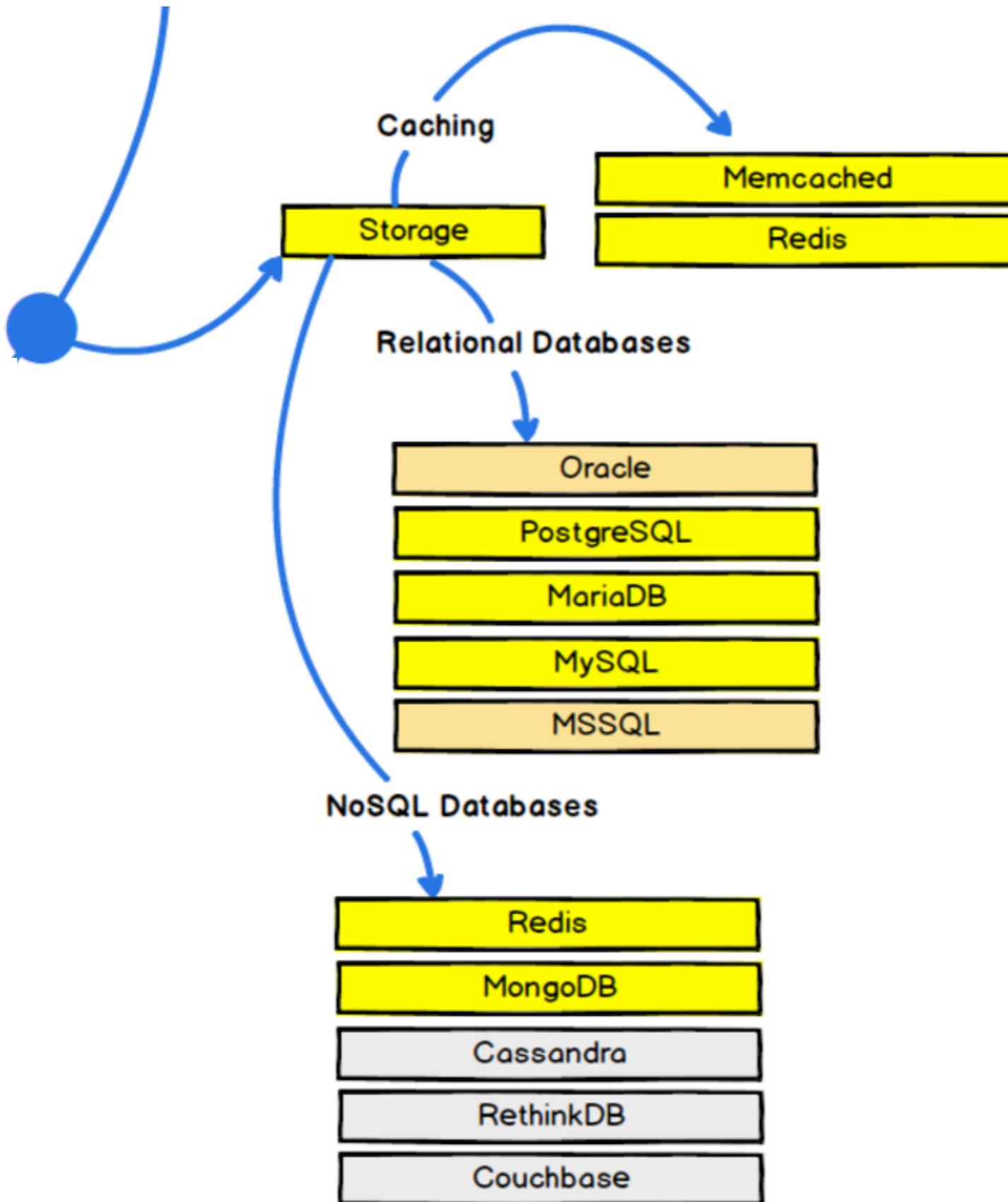
Back-end: Node



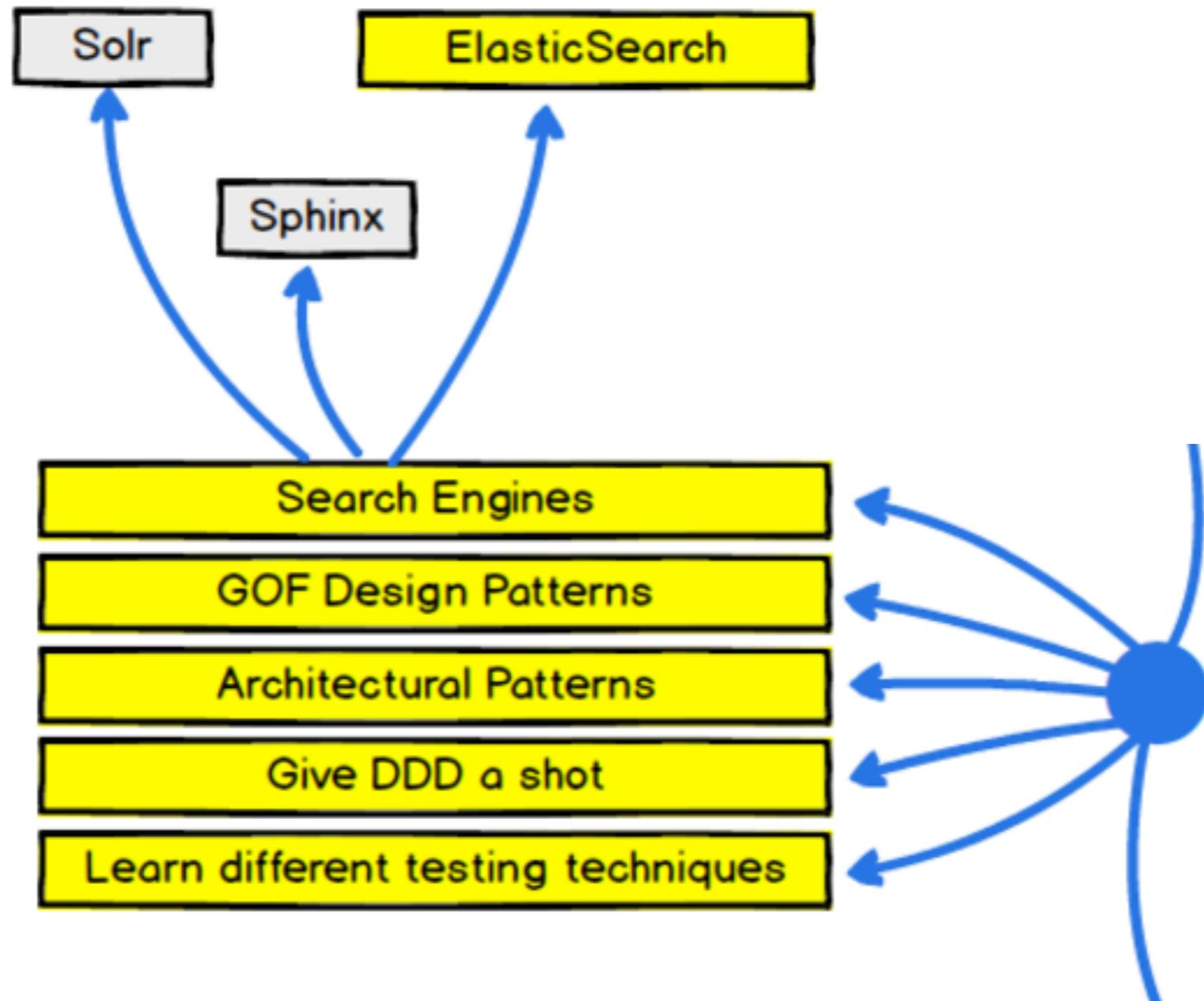
Back-end: Infrastructure + Key Techniques



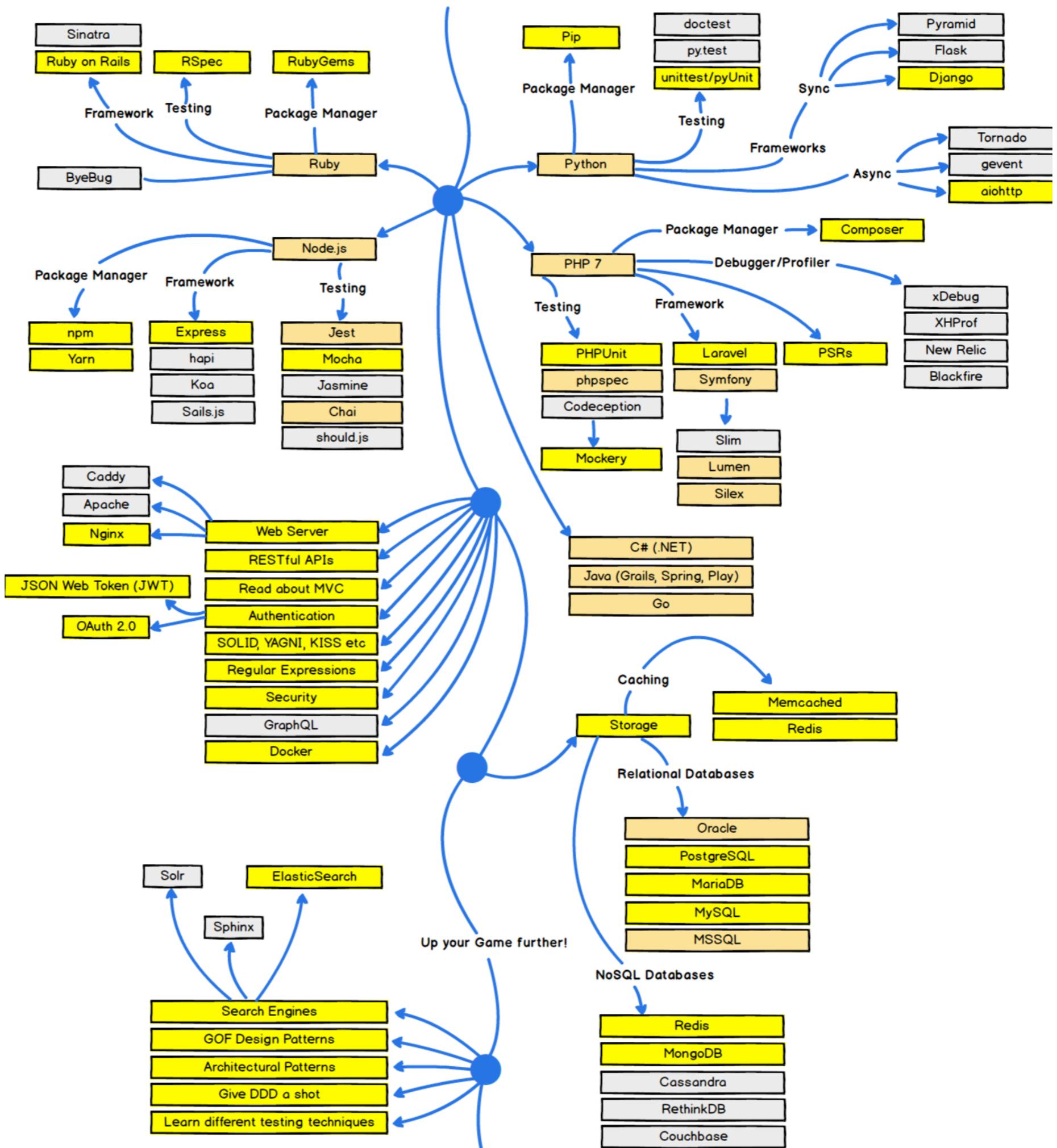
Back-end: Database



Back End: Patterns



Back End:



DevOps

