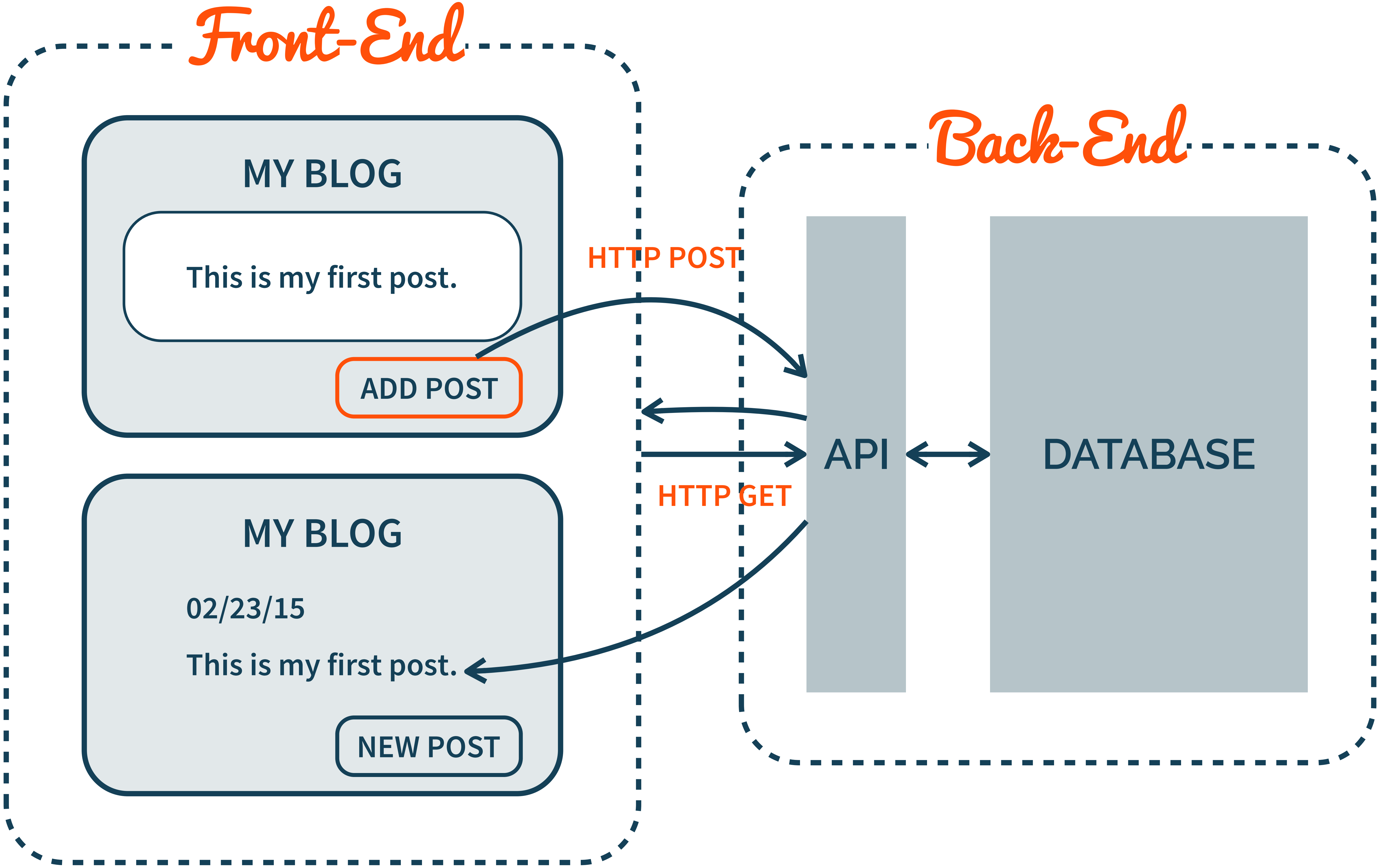
COURSE OVERVIEW

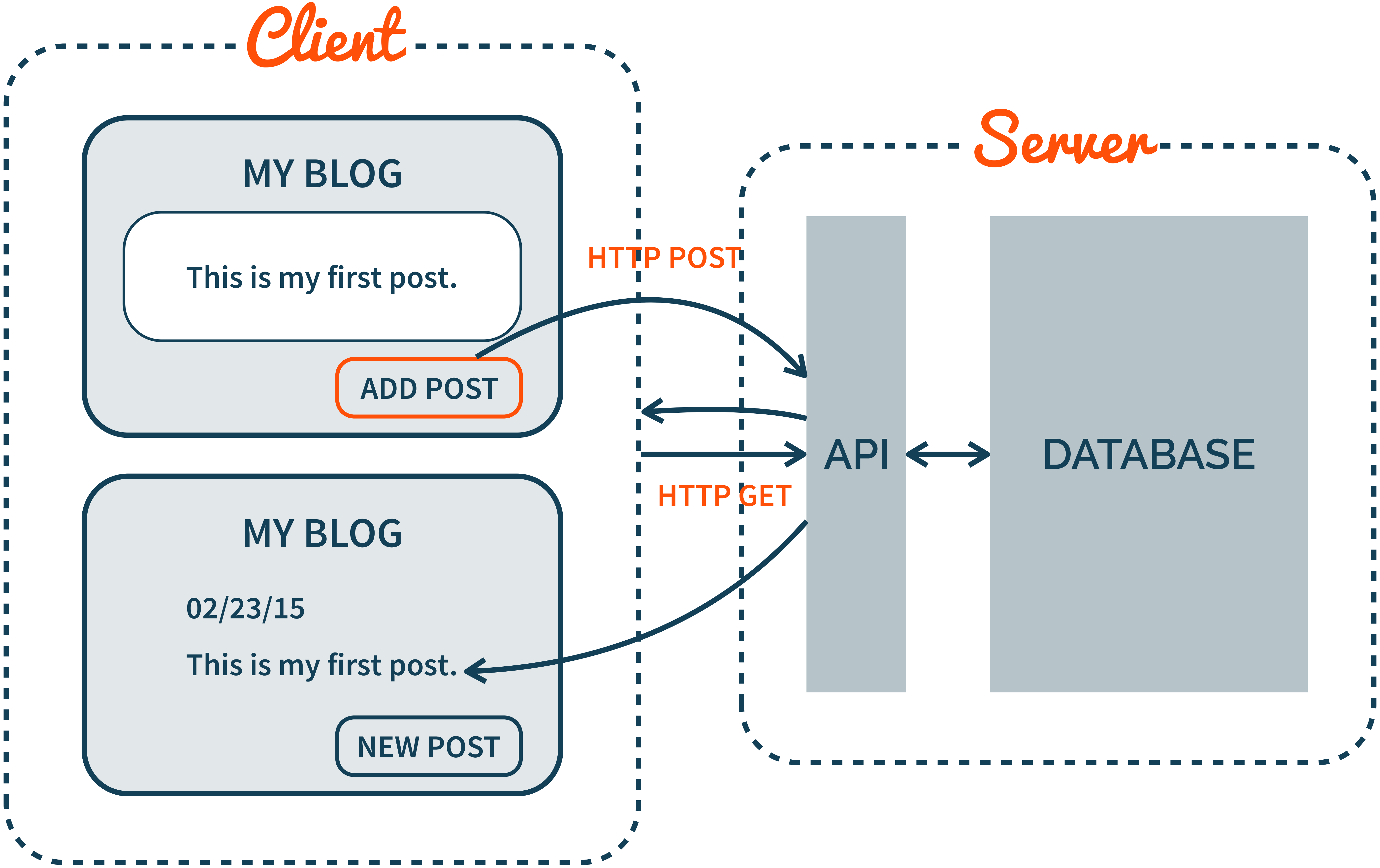
WEB SKILL SETS

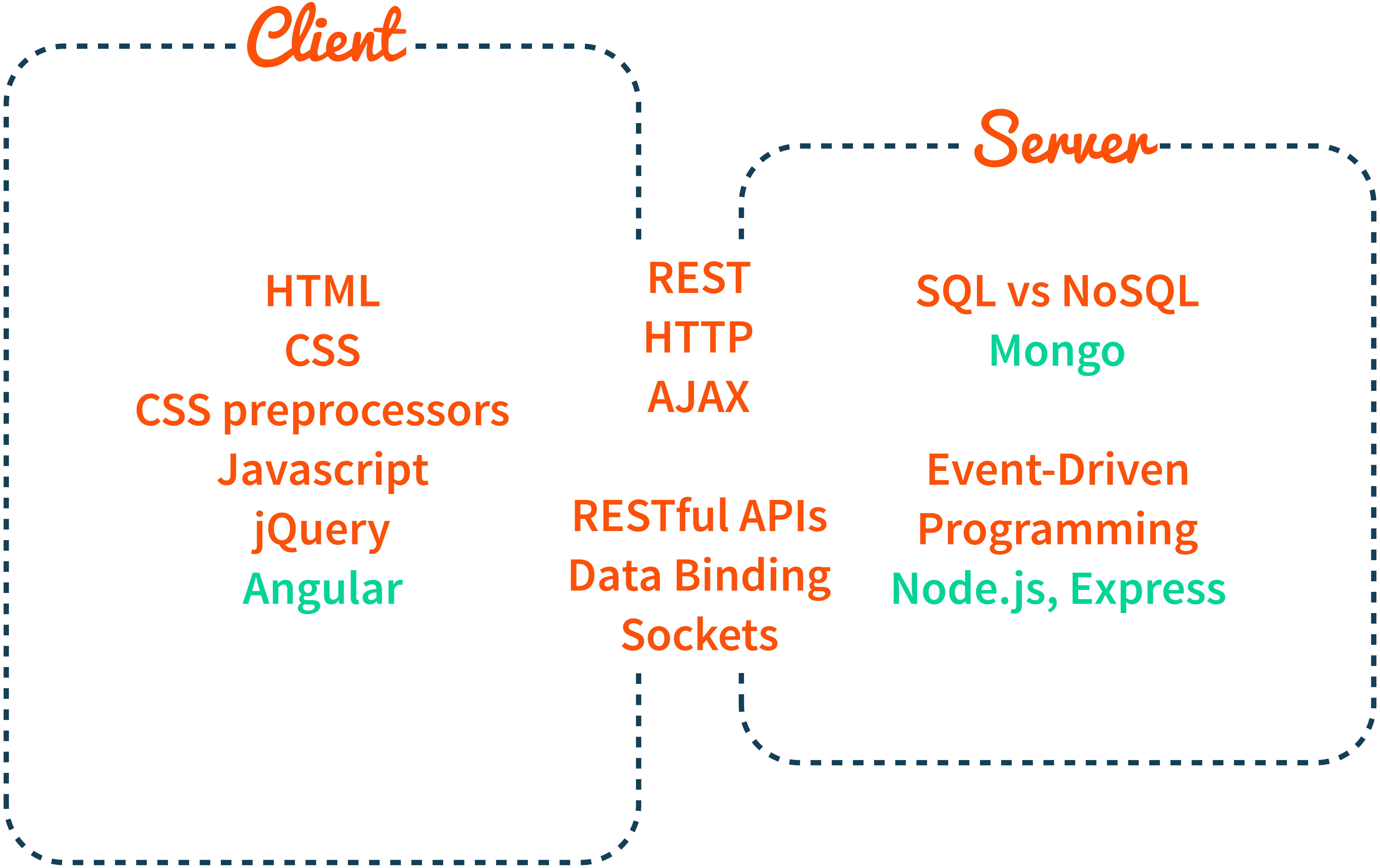
Design

Front end

Back end


Front-End
Back-End
MY BLOG
This is my first post.
ADD POST
MY BLOG
02/23/15
This is my first post.
NEW POST
HTTP POST
HTTP GET
API
DATABASE


Client
MY BLOG
This is my first post.
ADD POST
MY BLOG
02/23/15
This is my first post.
NEW POST
HTTP POST
HTTP GET
Server
API
DATABASE



Client

HTML
CSS
CSS preprocessors
Javascript
jQuery
Angular

REST
HTTP
AJAX

RESTful APIs
Data Binding
Sockets

Server

SQL vs NoSQL
Mongo

Event-Driven
Programming
Node.js, Express

HTML

Most web pages are written in HTML

Content is embedded in a set of nested HTML tags

Layout engine parses HTML into a Document Object Model

Web browsers use DOM to render pages

```
<!DOCTYPE html>
<html>
   <head>
     <title>Photo Gallery</title>
   </head>

   <body>
     <div class="photo">
       <h3>My first photo</h3>
       <img src="picture1.jpg"/>
     </div>
   ...
  </body>
</html>
```

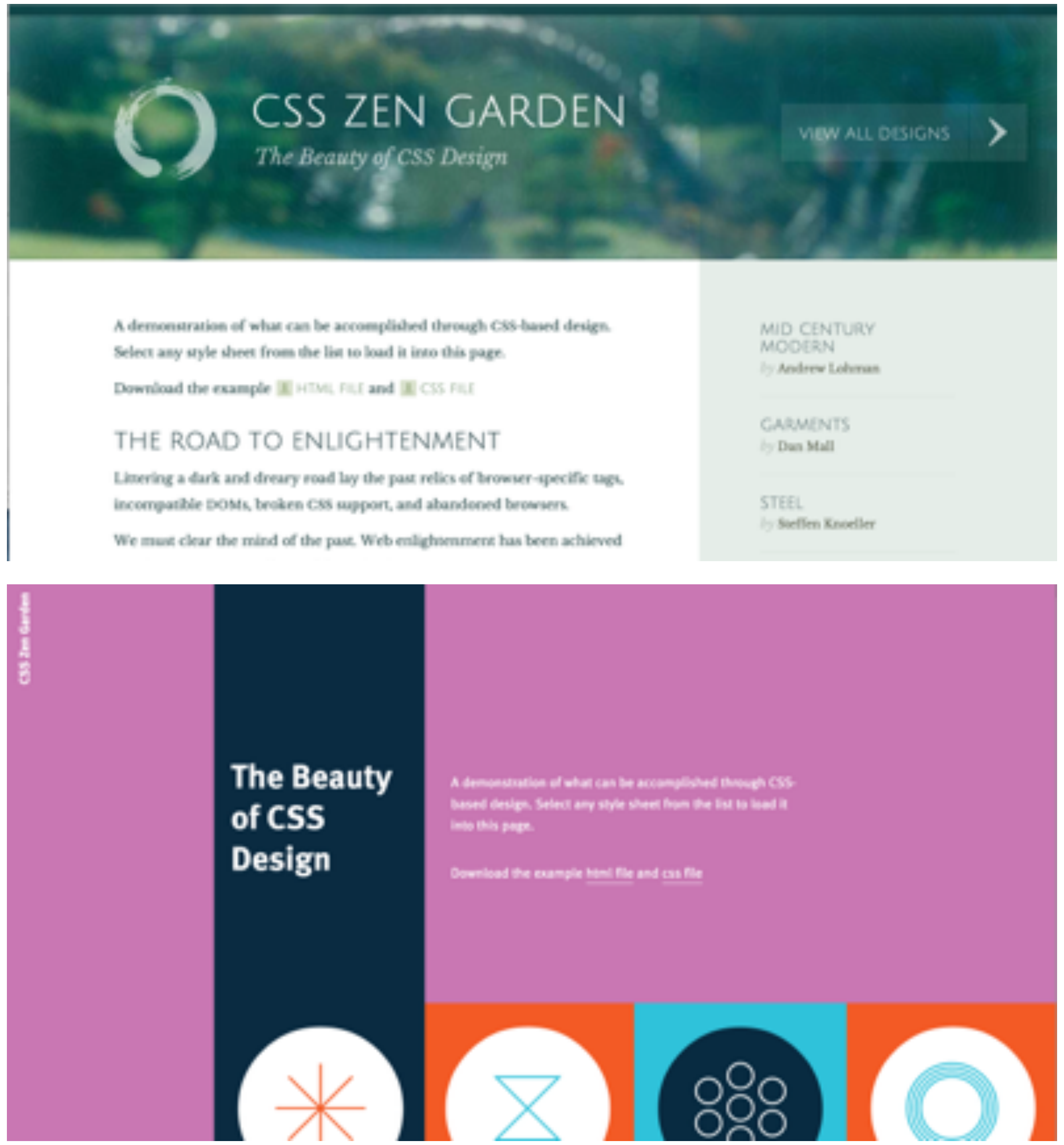
CSS

Language for specifying presentation

Selectors map styles to markup

Describe how to render

Separation of content from presentation



CSS ZEN GARDEN

The Beauty of CSS Design

VIEW ALL DESIGNS

A demonstration of what can be accomplished through CSS-based design. Select any style sheet from the list to load it into this page.

Download the example HTML FILE and CSS FILE

THE ROAD TO ENLIGHTENMENT

Littering a dark and dreary road lay the past relics of browser-specific tags, incompatible DOMs, broken CSS support, and abandoned browsers.

We must clear the mind of the past. Web enlightenment has been achieved

MID CENTURY MODERN
by Andrew Lohman

GARMENTS
by Dan Mall

STEEL
by Steffen Knoeller

CSS Zen Garden

The Beauty of CSS Design

A demonstration of what can be accomplished through CSS-based design. Select any style sheet from the list to load it into this page.

Download the example html file and css file

csszengarden.com

JAVASCRIPT

front-end interactions

dynamic content

server-side programming (node.js)

object-oriented, imperative, functional

JAVASCRIPT IS WEIRD

```
[10, 20, 9, 8, 30].sort()
```

JAVASCRIPT IS WEIRD

[10, 20, 30, 8, 9]

DATA BINDING

Model-View-Controller

HTTP: request-response protocol

AJAX: send and receive data without reloading page

JSON: data exchange format

DATABASES

SQL (MySQL)

NoSQL (MongoDB)

Graph (Neo4j)

APIS AND SERVER LOGIC

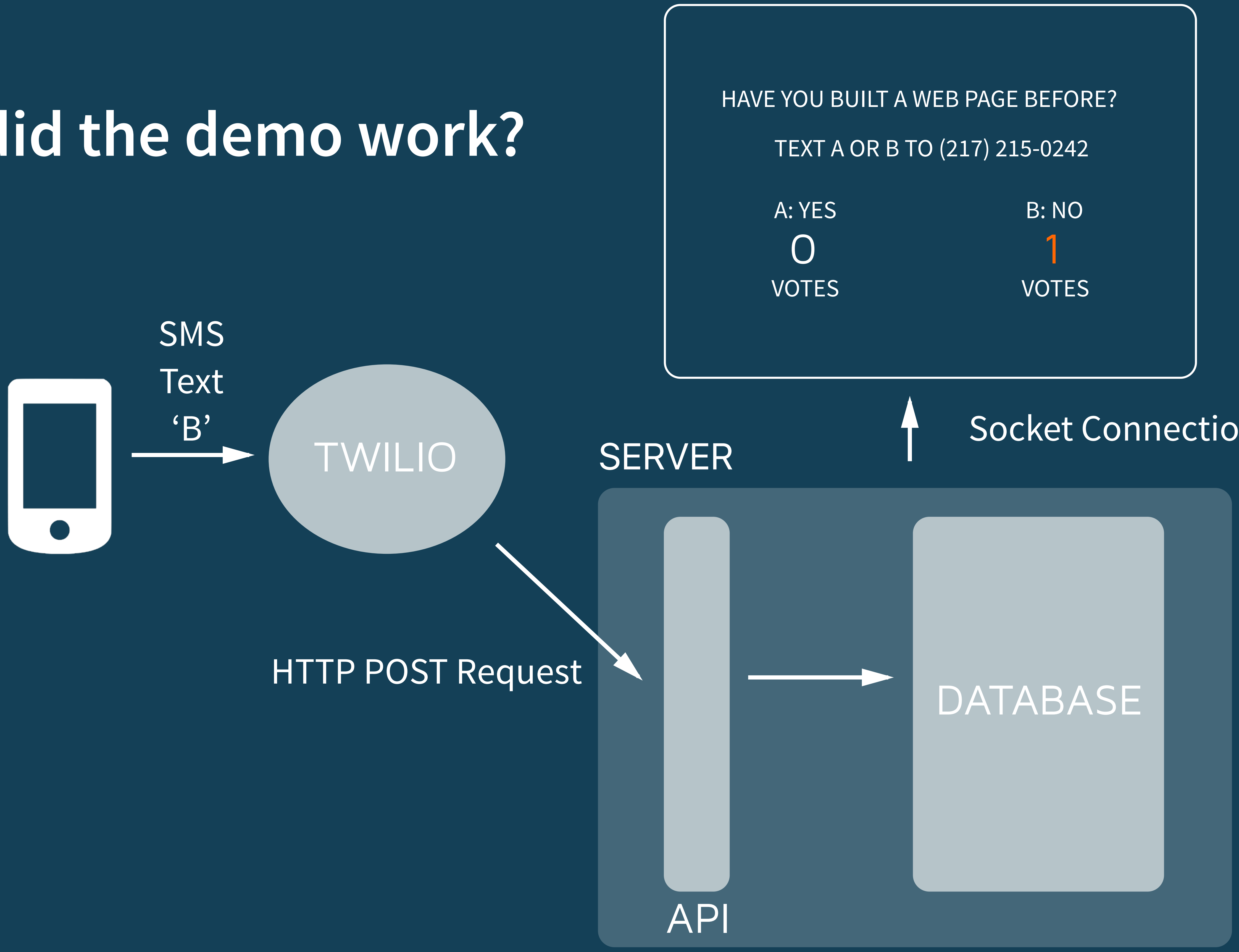
HTTP requests: GET, POST, DELETE

Designing a RESTful API

Node.js and Express

Web Sockets

How did the demo work?



HAVE YOU BUILT A WEB PAGE BEFORE?

TEXT A OR B TO (217) 215-0242

A: YES	B: NO
0	1
VOTES	VOTES

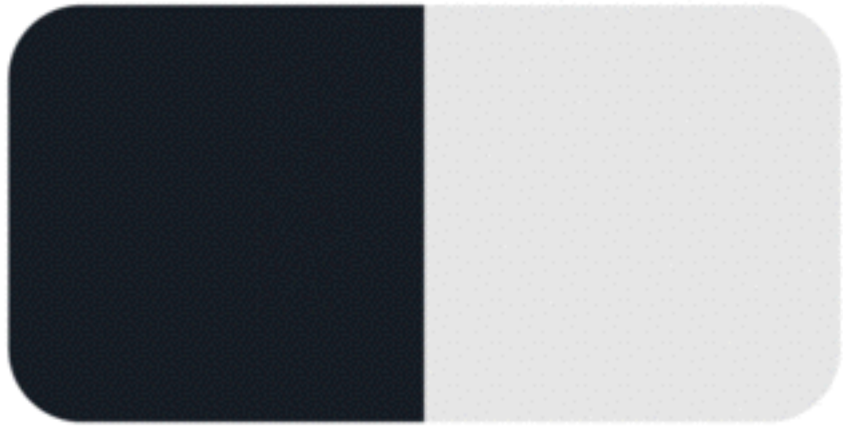
WILL THIS COURSE BE OUTDATED NEXT YEAR?

Focus on concepts not just specific technologies

Understand how trends arose and have changed

~1989: Unix-based web browsers

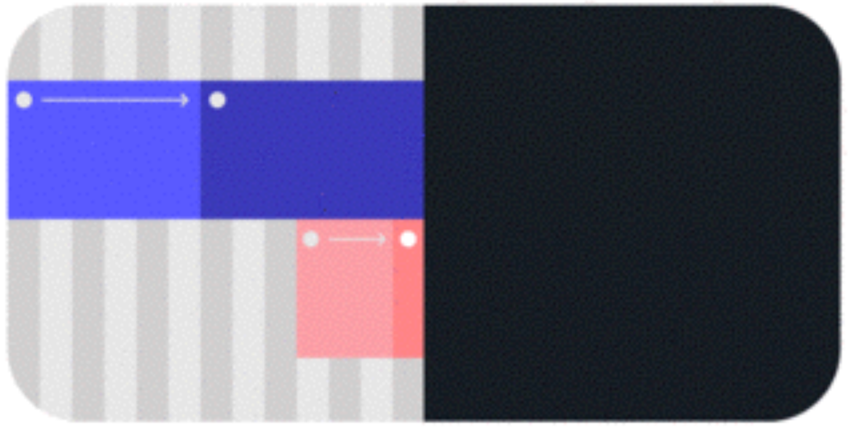
~1995: First graphical Web browsers



www.fastcodesign.com/3039402/the-history-of-web-design-explained-in-9-gifs

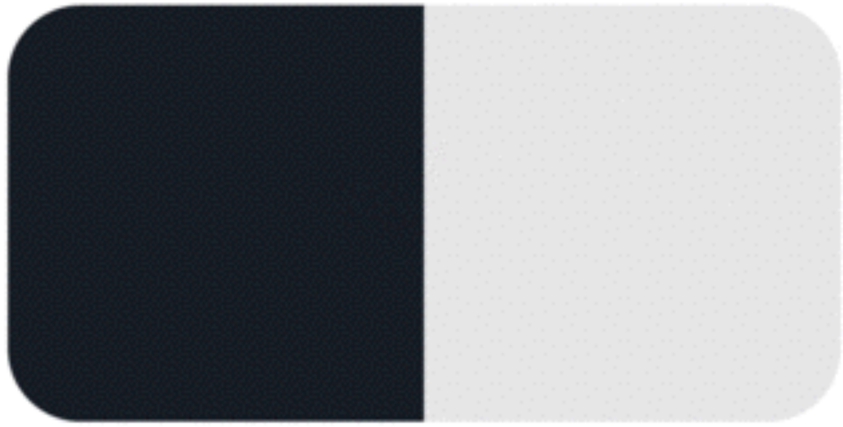
~1995: Javascript & Dynamic Content

~1996: Flash animations



www.fastcodesign.com/3039402/the-history-of-web-design-explained-in-9-gifs

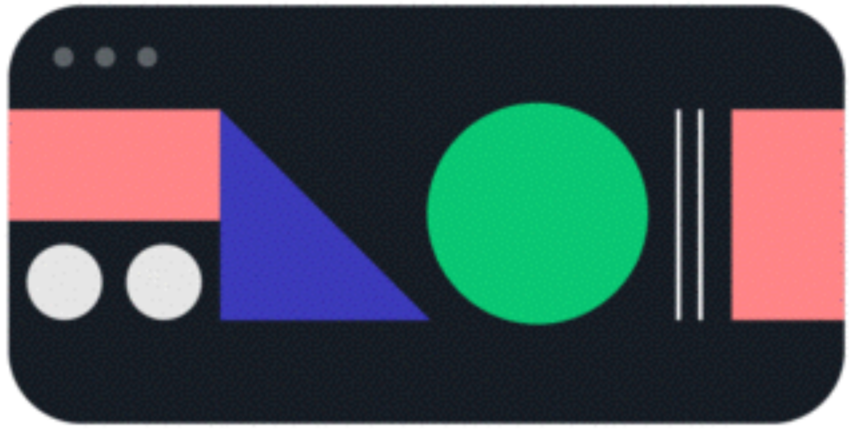
~1998: CSS came on the scene



~2007: Grid systems

www.fastcodesign.com/3039402/the-history-of-web-design-explained-in-9-gifs

~2010: Responsive design



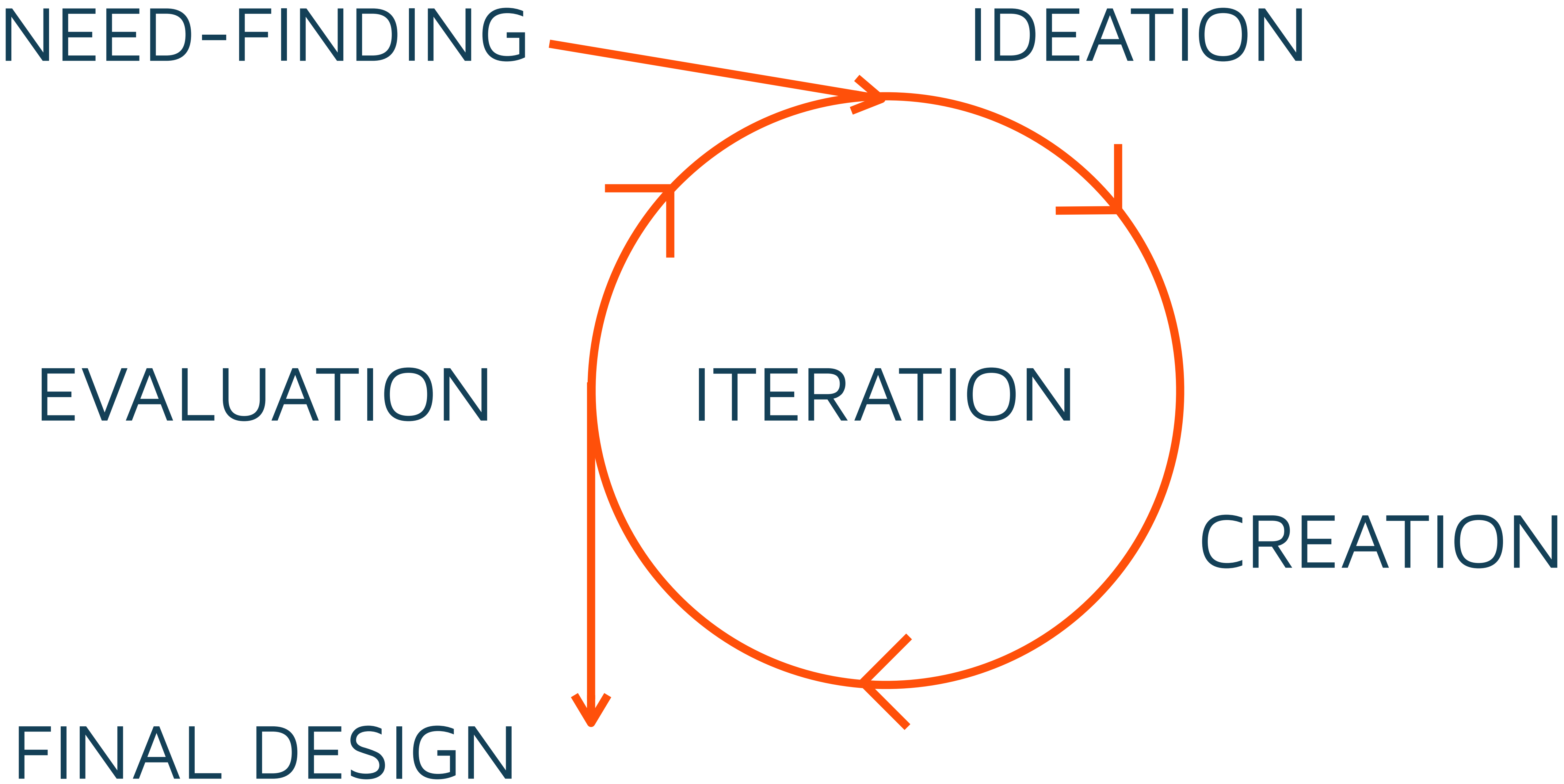
Last few years: Flat design

www.fastcodesign.com/3039402/the-history-of-web-design-explained-in-9-gifs

Future?

www.fastcodesign.com/3039402/the-history-of-web-design-explained-in-9-gifs

DESIGN EMPHASIS



NEED-FINDING

IDEATION

EVALUATION

ITERATION

CREATION

FINAL DESIGN

ADMINISTRIVIA

To get on the waitlist, please fill out **survey**

Do **not** email us directly!

COURSE STAFF

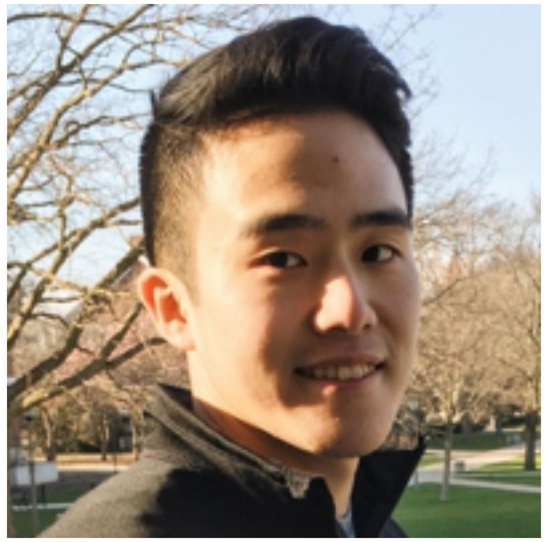
Biplab

Kristen

Chad

Devin

Sujay



Andy

OFFICE HOURS

Ranjitha: Wed 1-2pm, SC 3116

Biplab: Mon TBD, SC 0207

Kristen: Fri TBD, SC 0207

Avoid emailing us directly — use **Piazza**

No office hours this week!

LECTURES & LABS

Lectures cover theory and concepts

Labs walk through concrete code examples

Bring your laptops to labs and follow along

In-class warm-up problems count toward participation

ASSIGNMENTS

4 MPs (50% of grade)

Learn the entire Web stack

Late assignments receive **no credit**

Three 24-hour late days

50% OF GRADE

FINAL PROJECT

Design and implement original Web app

3-4 person teams

Multiple checkpoints: proposal, paper prototypes, functional prototype

No late days

30% OF GRADE

EXAMS

👻 *Scary!*

In-class midterm on **Oct 31st**

Alternative arrangements must be made **two-weeks** prior to exam

No final exam

20% OF GRADE

ACADEMIC INTEGRITY

Consult external resources to complete assignments

Clearly cite any contributing source

Failure to cite any contributing source will be considered **cheating**

Verbatim duplication of any source will always be considered **plagiarism**

PROFESSIONAL DEVELOPMENT

Corporate Guest Lectures f Granular TURN

🌮 Taco Social (Sep 28)

🏆 Final Project Competition @ Research Park

NEXT CLASS: HTML

courses.engr.illinois.edu/cs498rk1/