



DEPARTMENT OF
COMPUTER SCIENCE
計算機科學系



COURSE OVERVIEW

ITEC2016 - DATA-DRIVEN VISUALIZATION FOR THE WEB

CHAPTER 0 - 2018 - HKBU

DR. MARTIN CHOY

Teaching Crew

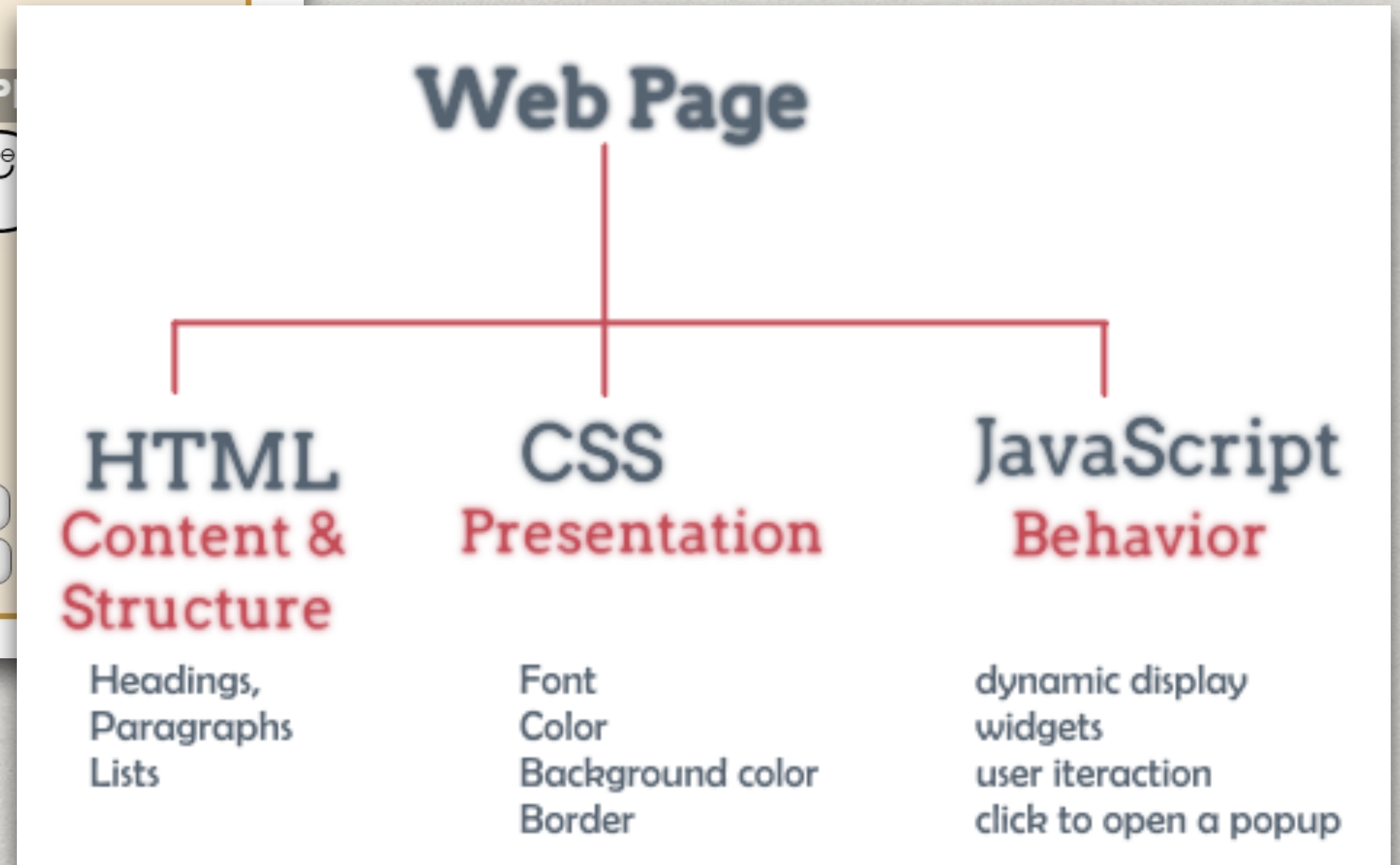
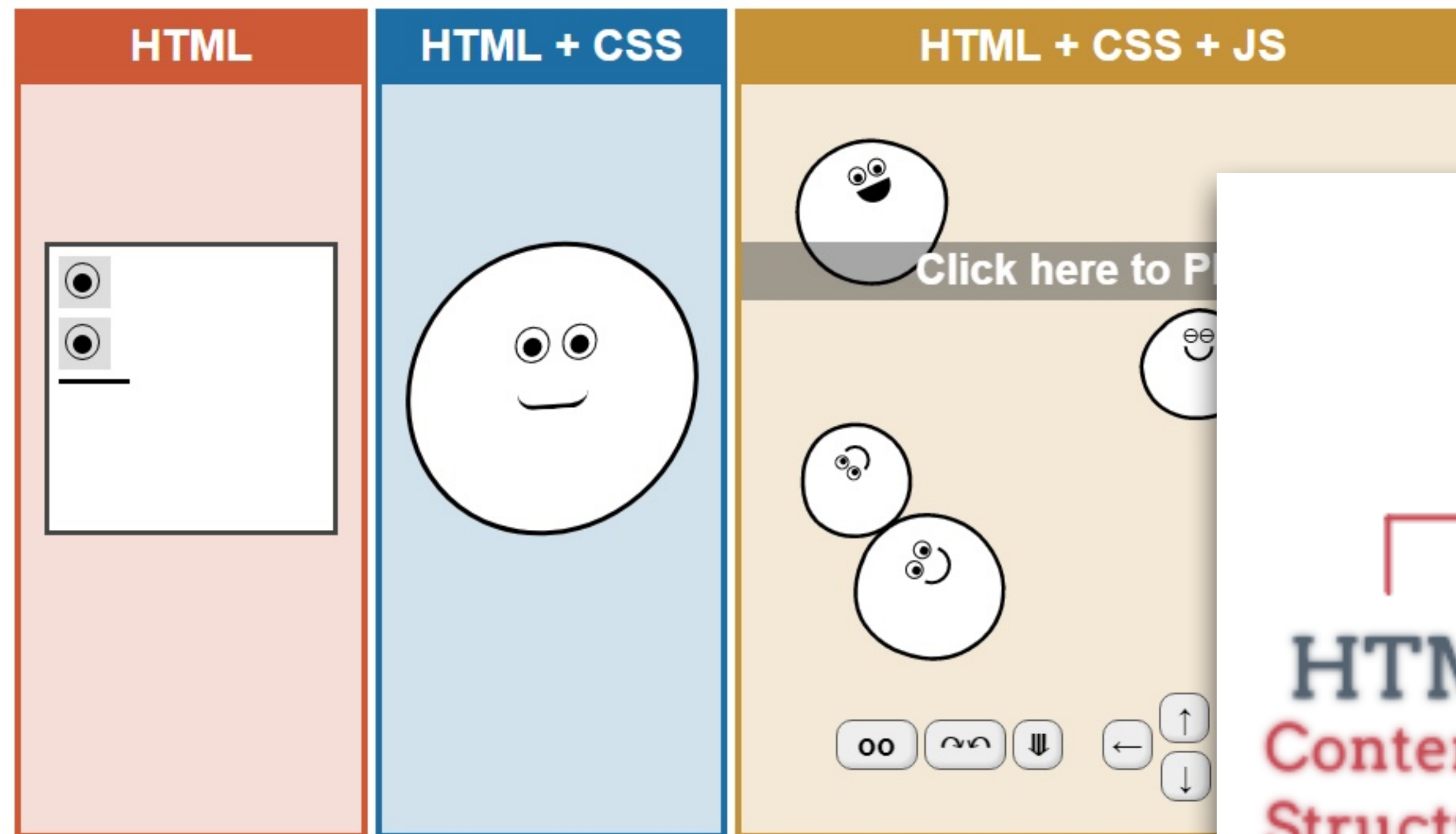


Dr. Martin Choy



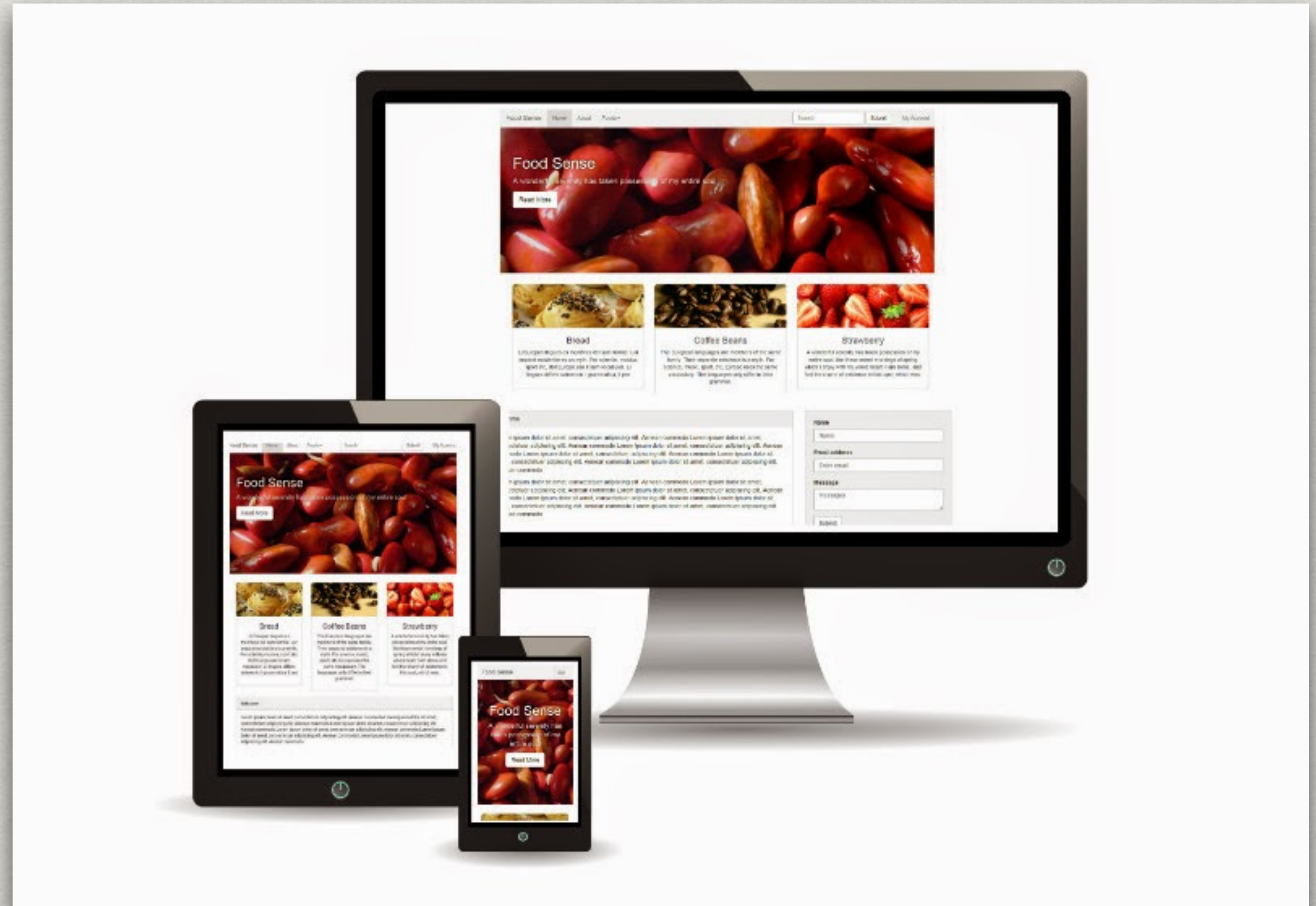
Mr. Rong Zou

Web Development



Responsive Web Design

- * One design **fitting all screen sizes.**
- * Content could be automatically re-arranged.



HTML Form Request and Handling



FORM ELEMENTS (FRONTEND HTML & CSS)

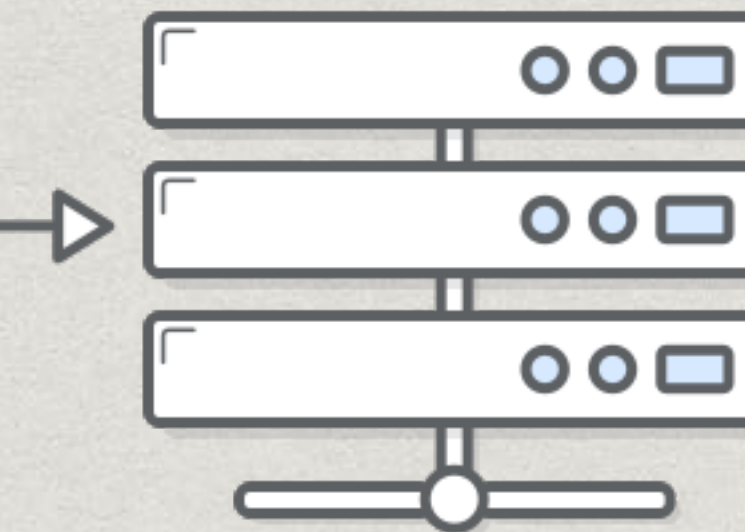
Log in with your email account

Email

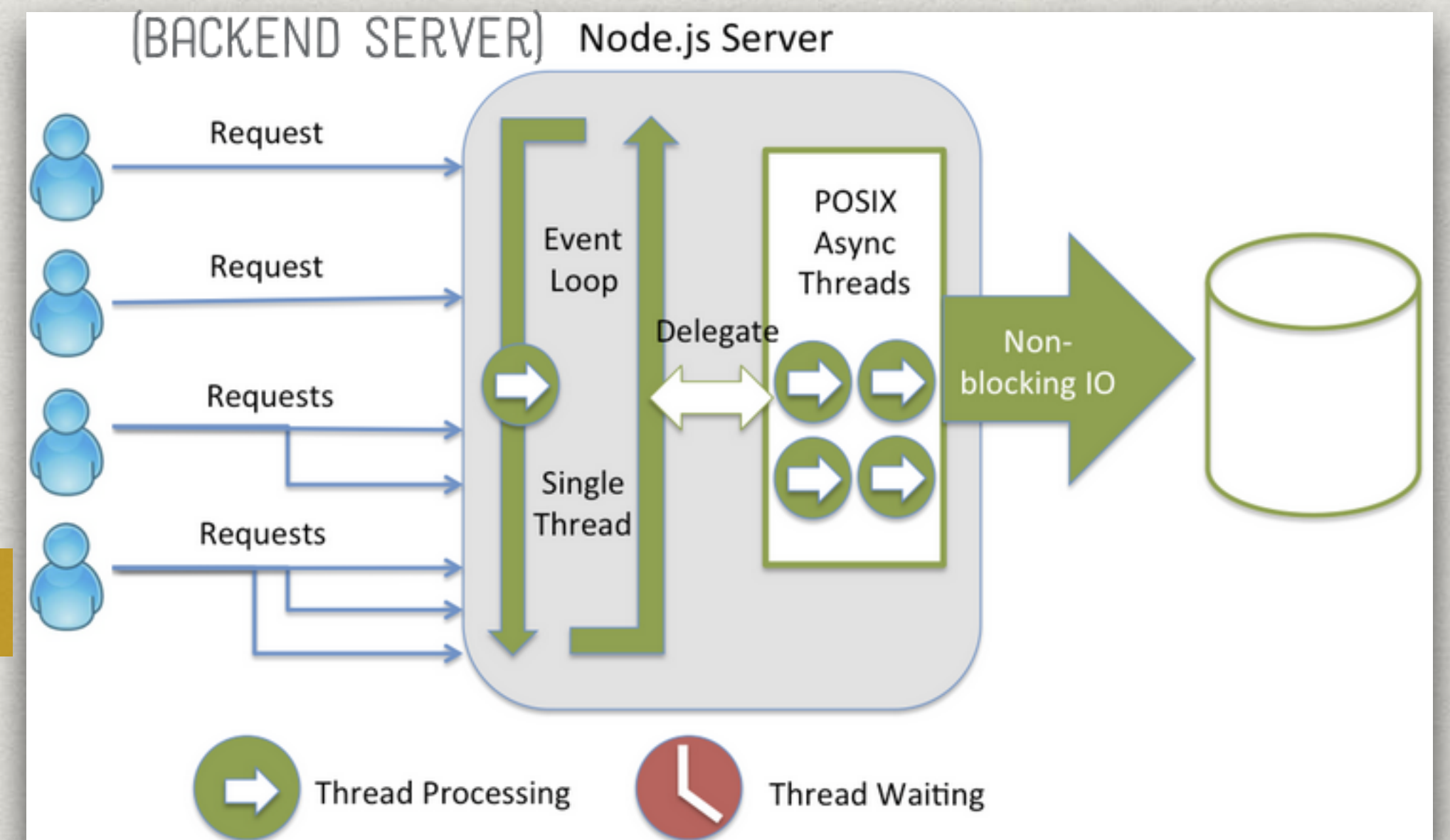
Password

☐ Show password

[Forgot your password?](#)



FORM PROCESSING

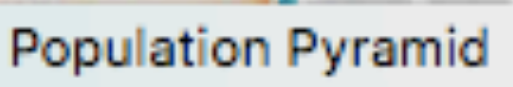


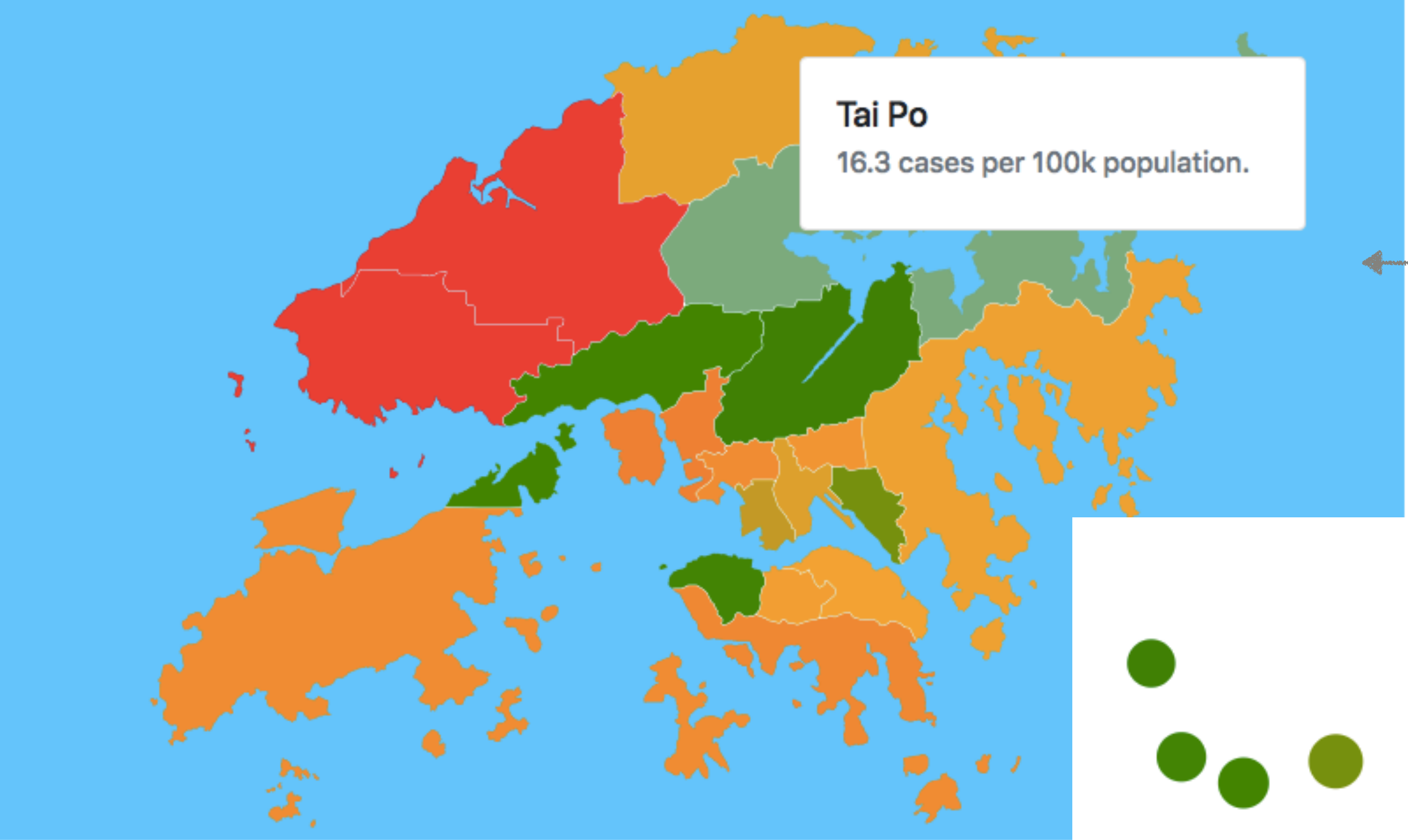
Server-side scripting

DATA VISUALIZATION

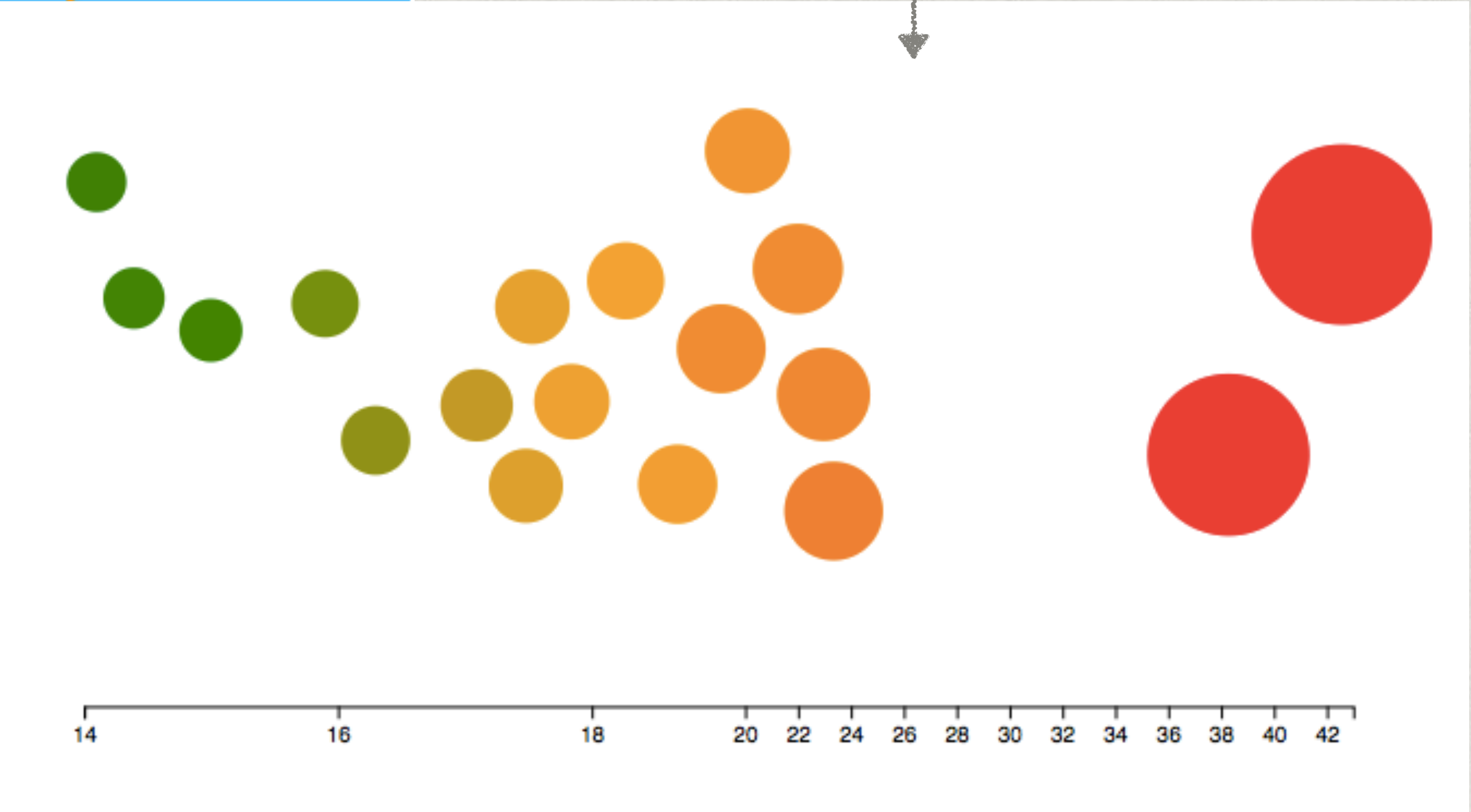


2D Data Visualization: <https://d3js.org>



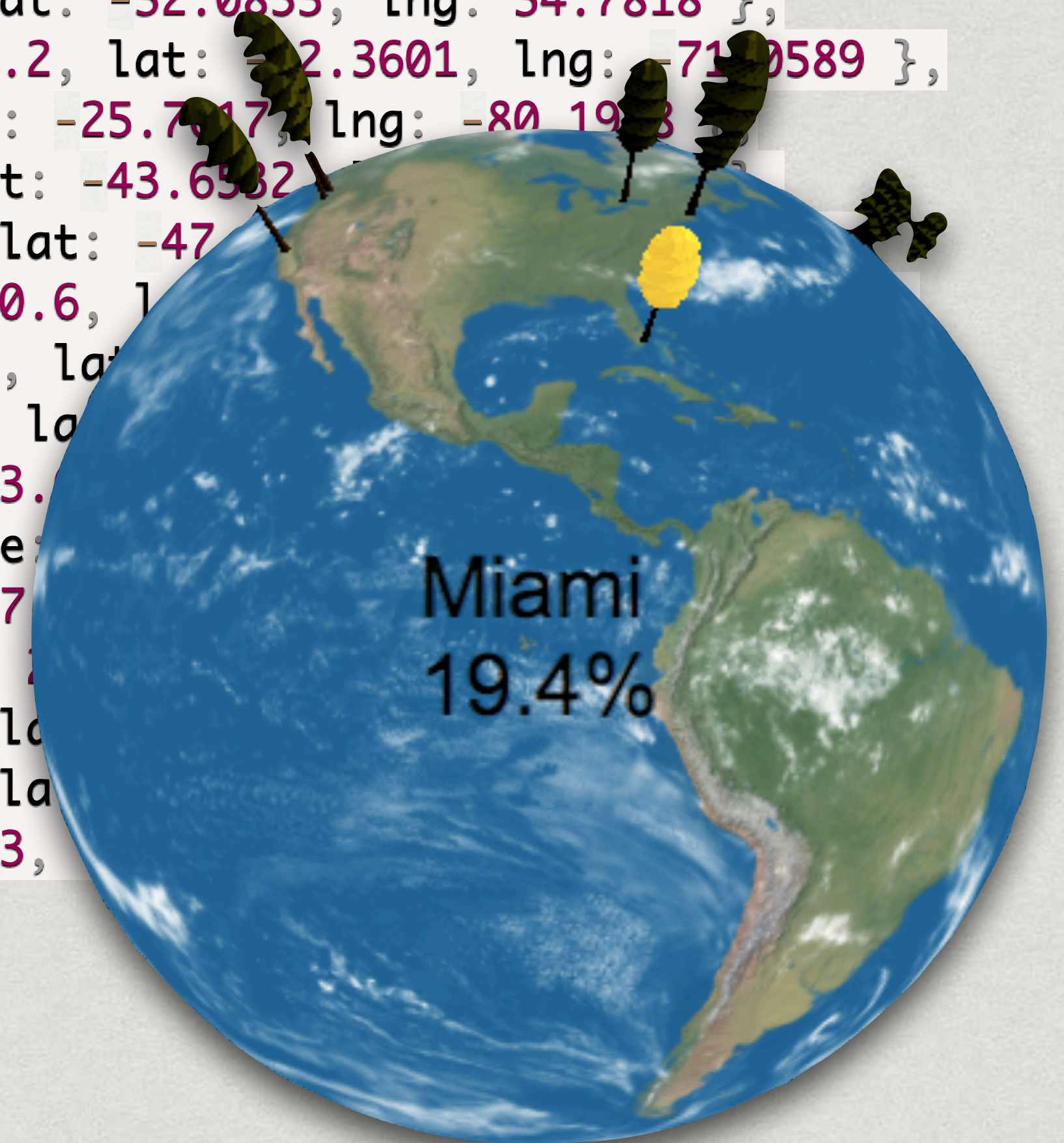


```
var abuses = [  
  district: "Central & Western", cases: 14.5, map_id: 1 },  
  district: "Wan Chai", cases: 18.7, map_id: 15 },  
  district: "Eastern", cases: 18.2, map_id: 2 },  
  district: "Southern", cases: 22.0, map_id: 11 },  
  district: "Yau Tsim Mong", cases: 17.1, map_id: 17 },  
  district: "Sham Shui Po", cases: 21.3, map_id: 10 },  
  district: "Kowloon City", cases: 17.5, map_id: 4 },  
  district: "Wong Tai Sin", cases: 20.1, map_id: 16 },  
  district: "Kwun Tong", cases: 15.9, map_id: 6 },  
  district: "Kwai Tsing", cases: 23.3, map_id: 5 },  
  district: "Tsuen Wan", cases: 14.9, map_id: 13 },  
  district: "Tuen Mun", cases: 38.3, map_id: 14 },  
  district: "Yuen Long", cases: 42.6, map_id: 18 },  
  district: "Northern", cases: 17.6, map_id: 7 },  
  district: "Tai Po", cases: 16.3, map_id: 12 },  
  district: "Shatin", cases: 14.1, map_id: 9 },  
  district: "Sai Kung", cases: 17.8, map_id: 8 },  
  district: "Islands", cases: 21.0, map_id: 3 }  
];
```



3D Data Visualization

```
var treeCities = [  
  { city: "Tel Aviv", country: "Israel", percentage: 17.5, lat: -32.0853, lng: 34.7818 },  
  { city: "Boston", country: "Massachusetts", percentage: 18.2, lat: 42.3601, lng: -71.0589 },  
  { city: "Miami", country: "Florida", percentage: 19.4, lat: -25.7617, lng: -80.1918 },  
  { city: "Toronto", country: "Canada", percentage: 19.5, lat: 43.6532, lng: -79.3832 },  
  { city: "Seattle", country: "Washington", percentage: 20, lat: 47.6062, lng: -122.3321 },  
  { city: "Amsterdam", country: "Netherlands", percentage: 20.6, lat: 52.3676, lng: 4.8953 },  
  { city: "Geneva", country: "Switzerland", percentage: 21.4, lat: 45.764, lng: 4.8357 },  
  { city: "Frankfurt", country: "Germany", percentage: 21.5, lat: 50.1109, lng: 9.2465 },  
  { city: "Sacramento", country: "California", percentage: 23.7, lat: 38.5816, lng: -121.4944 },  
  { city: "Johannesburg", country: "South Africa", percentage: 23.7, lat: -26.2056, lng: 28.0243 },  
  { city: "Durban", country: "South Africa", percentage: 23.7, lat: -29.35, lng: 31.0331 },  
  { city: "Cambridge", country: "Massachusetts", percentage: 23.7, lat: 42.3736, lng: -71.1097 },  
  { city: "Vancouver", country: "Canada", percentage: 25.9, lat: 49.2827, lng: -123.1207 },  
  { city: "Sydney", country: "Australia", percentage: 25.9, lat: -33.8688, lng: 151.2093 },  
  { city: "Singapore", country: "Singapore", percentage: 29.3, lat: 1.3528, lng: 103.8226 },  
];
```



<https://threejs.org>

Assessment

- * Examination
 - * You'll need **30% to pass**
- * Project
 - * **2 to 3 students** per group
 - * **Data Visualization** Project.

Exam	40%
Project	30%
Assignments	20%
Labs	10%