

# **THINK IN ABSTRACTION**

**BY RYAN TSAI**

# Motivation

## What Is Abstraction?

### Demo

### Pattern Of Abstraction

### Pros and Cons of Abstraction

# Motivation

Has Impact on Software Industry

Other Fields

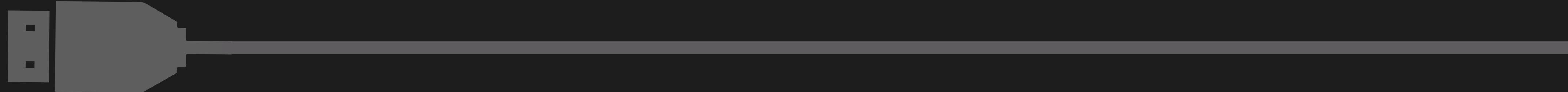
## **ABSTRACT**

The purpose of this study is to prevent the social problems caused by the endless network of fraudulent brushing cases and the resulting collapse of the financial order. Therefore, there must be a more secure measure to reduce the problem of stolen brushes and allow the popular credit card consumer market to Safer Internet transactions can also create greater business opportunities in the future e-commerce market and reduce the losses of banks, e-commerce and cardholders. In addition, this method must not increase the material and manpower of banks. And financial resources are convenient for cardholders. Explore findings:

- (1) The popularization of smart phones and the combination of mobile phones with credit cards to complete transactions are already recognized as consumption patterns.
- (2) The anti-theft mechanism set up by the bank is still not established. As in physical store transactions, it can be confirmed that the cardholder is the cardholder himself.
- (3) The amount of stolen Internet transactions continues to climb.

**Keywords:** Smart phone、Internet transaction、Credit card、anti-theft mechanism

# **WHAT IS ABSTRACTION?**

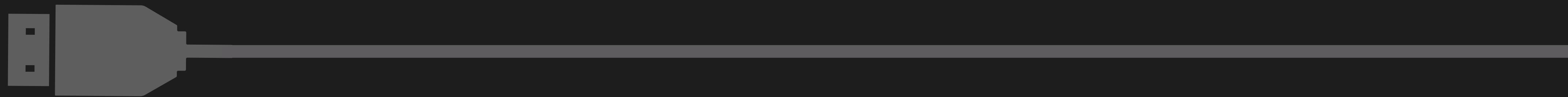


*Abstraction Is the Process of Hiding  
Certain Details and Showing Only  
Essential Information to Us.*

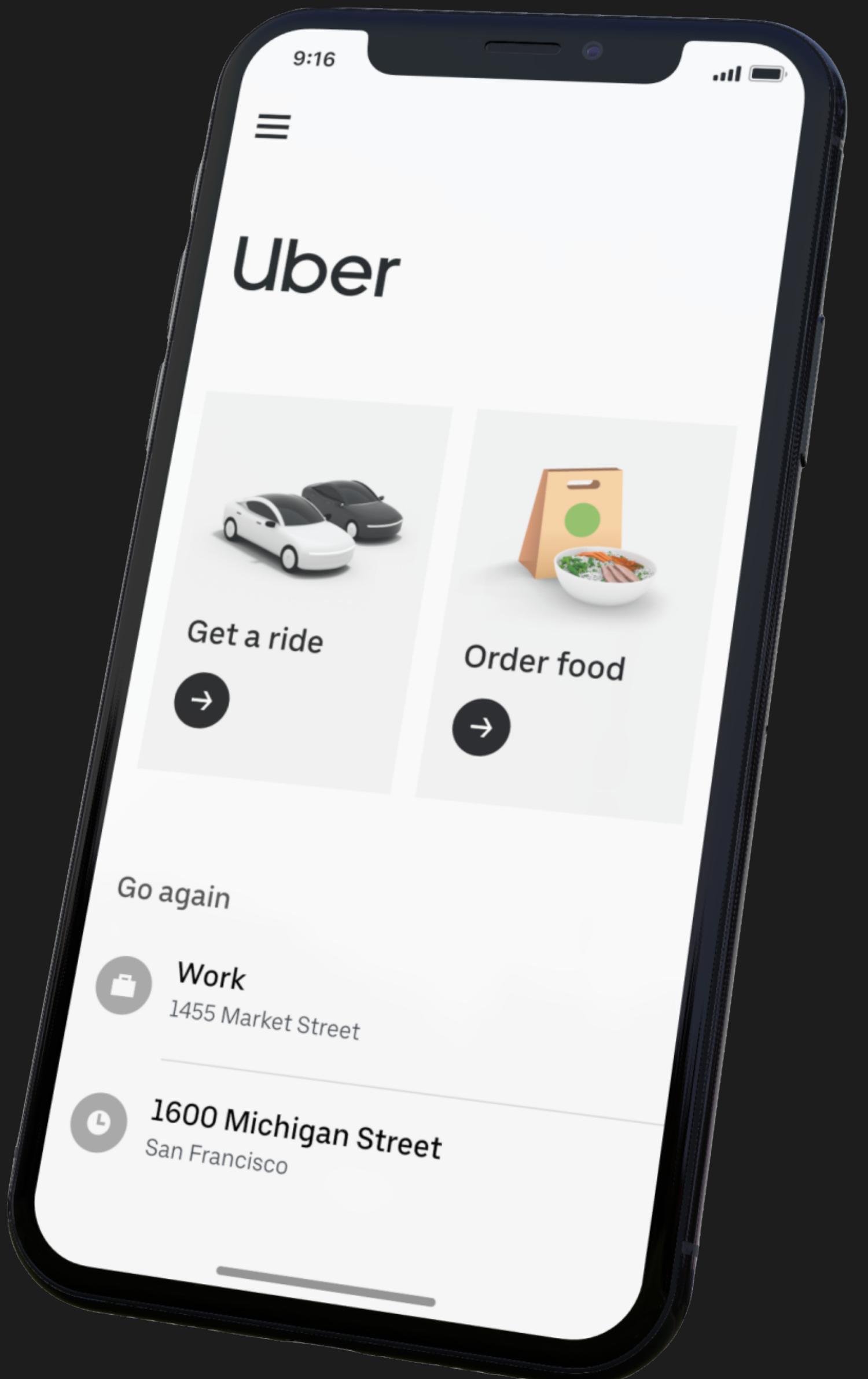


Under the Hood Is...**Complexity!**?

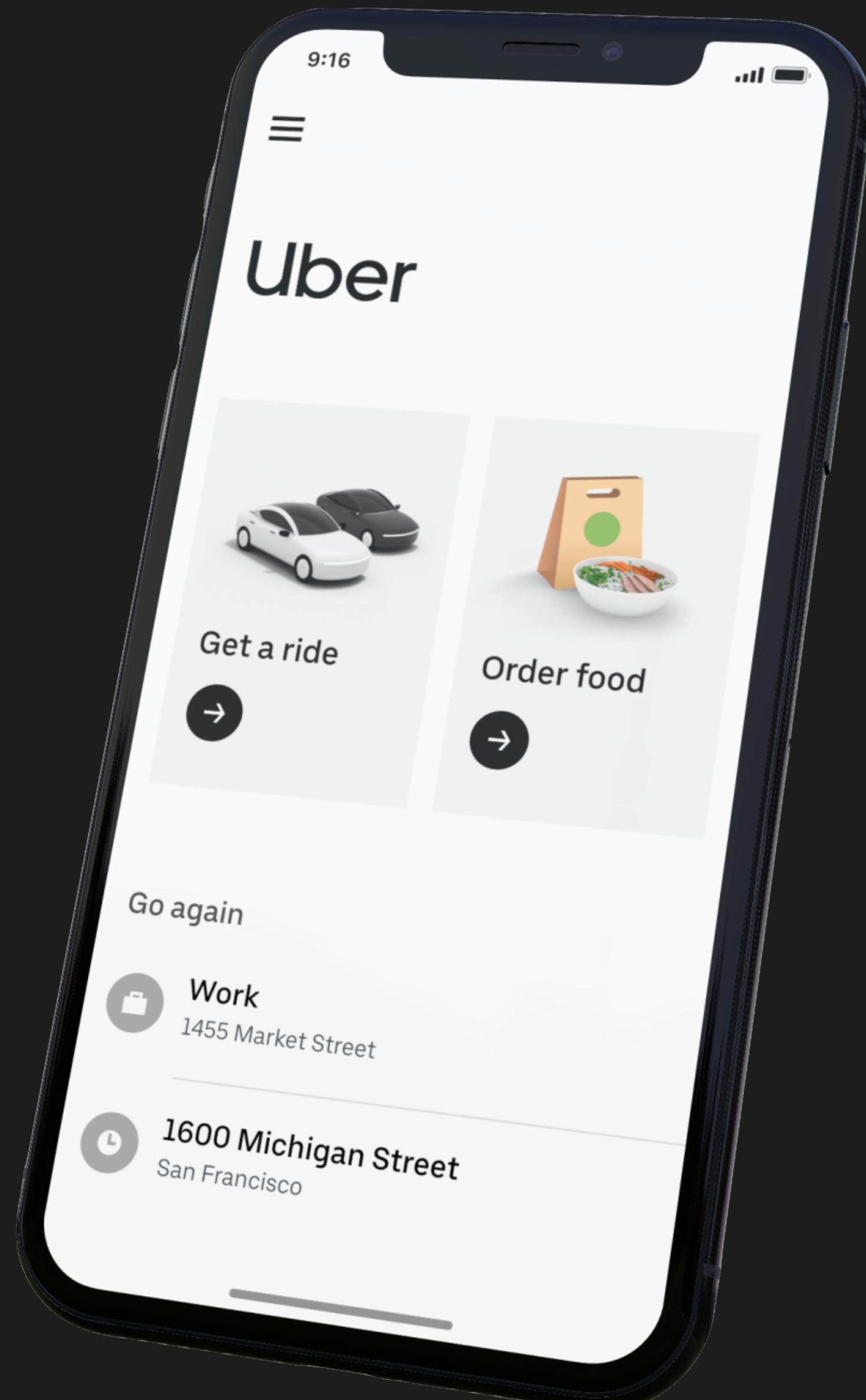
# **WHAT IS ABSTRACTION?**



*Is a Way To Manage Complexity*



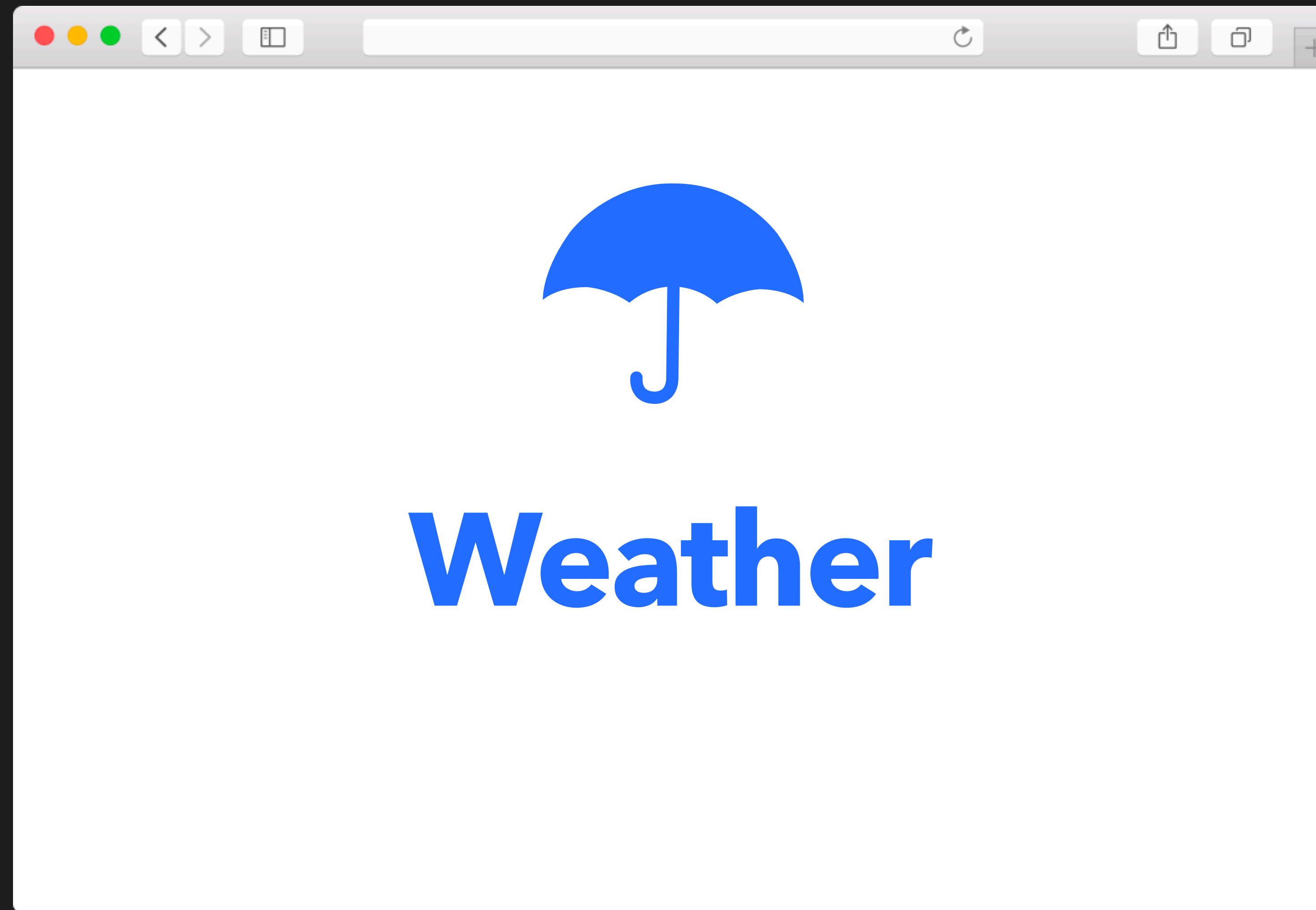
# ***High Level Abstraction***



# ***Hidden Details***



# Demo

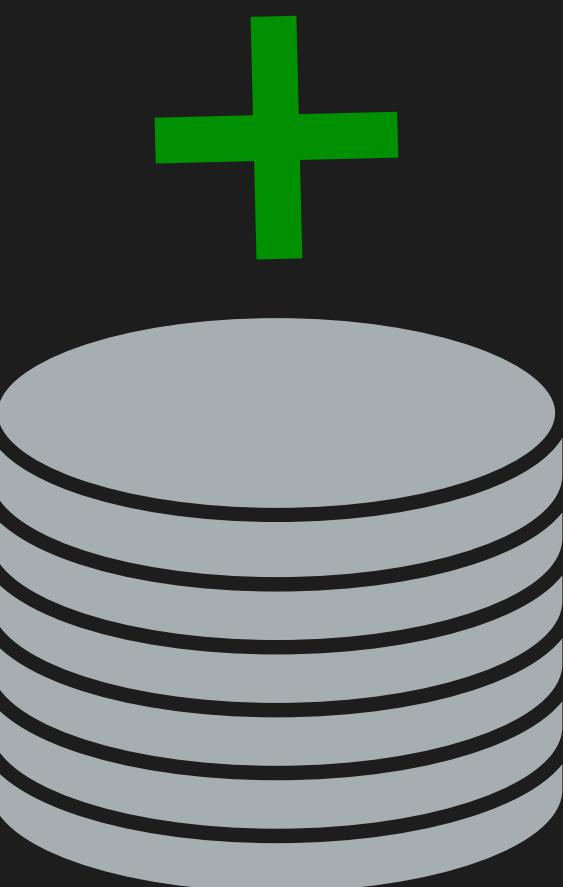
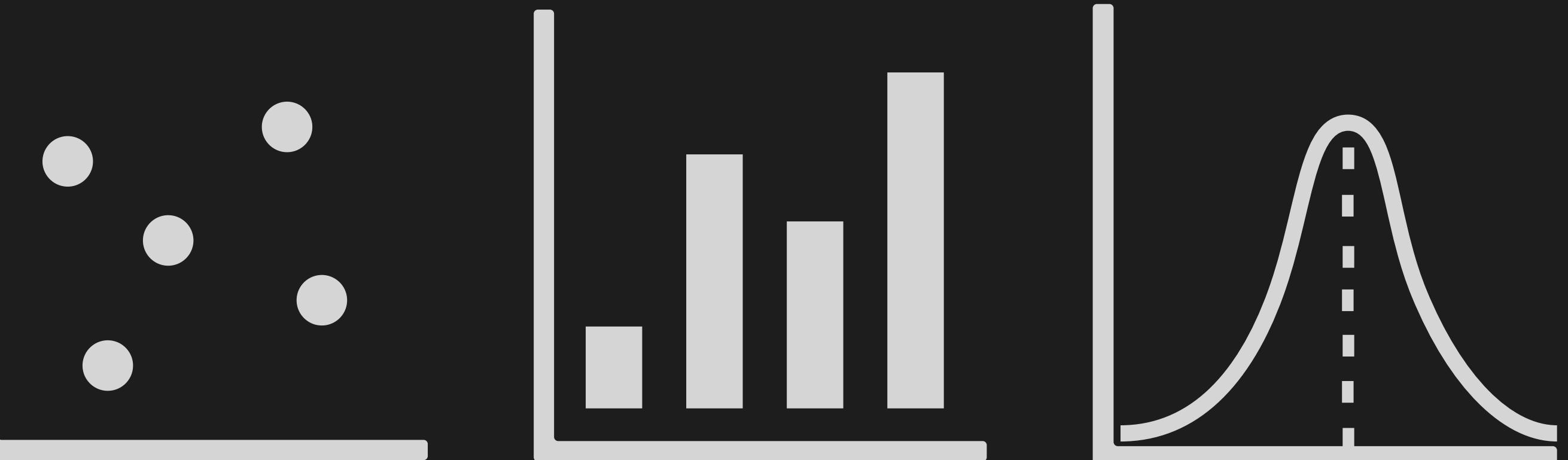
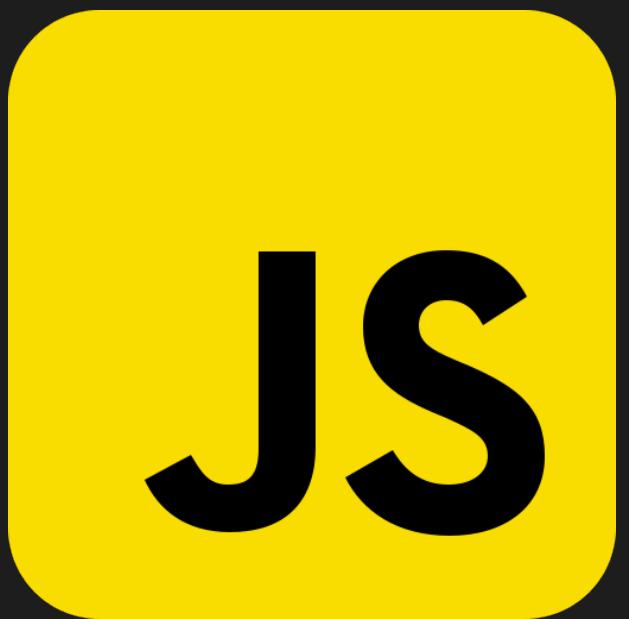
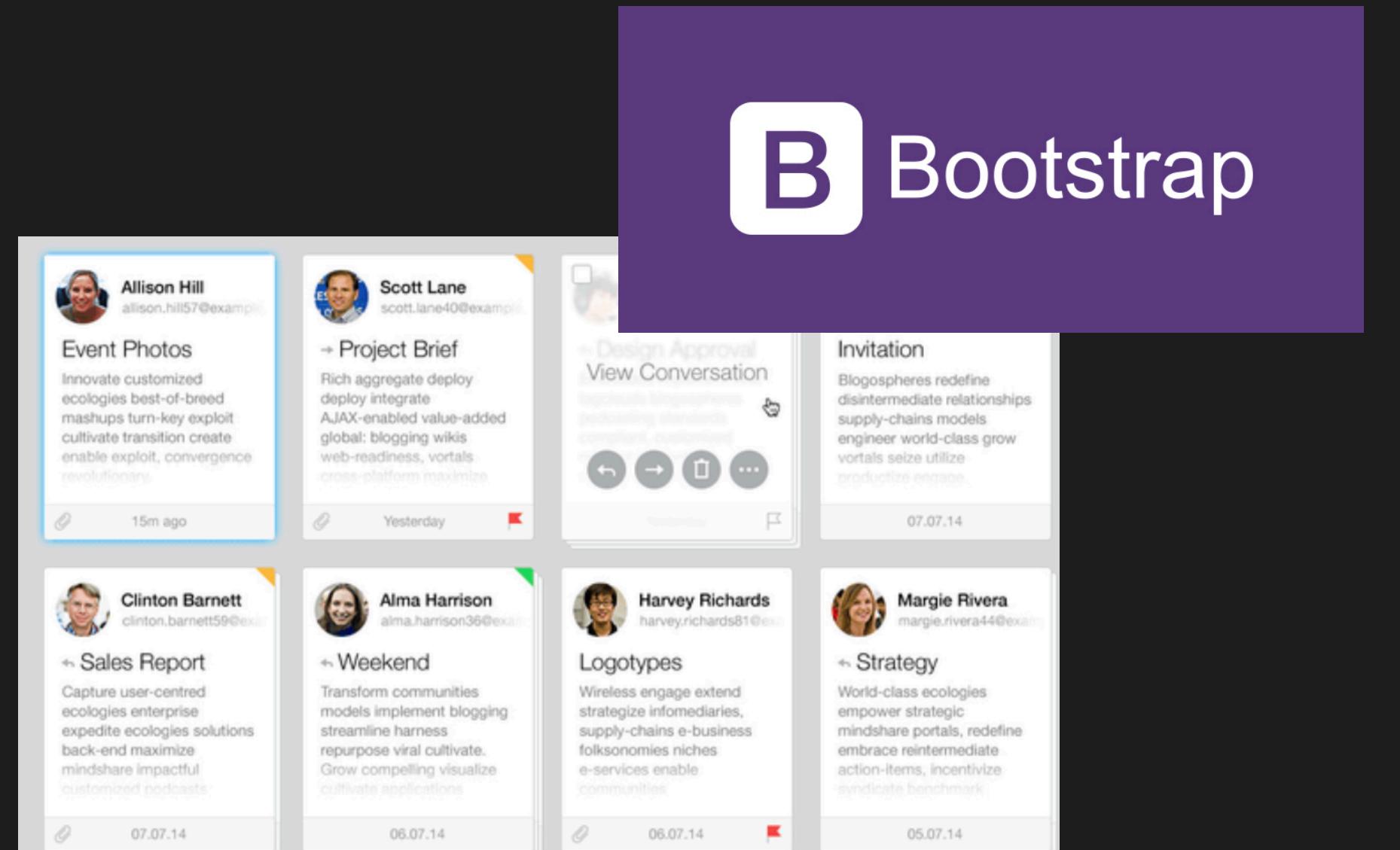


# Demo

How Can I Design my User Interface ?

Where Can I Get the Data ?

Which Programming Language?



# Open Data

# Visualize



## Card title

Vestibulum id metus ac  
nisl bibendum nibh  
scelerisque non purus in  
suspendisse.

Last updated 3 mins ago

```
.card {  
  position: relative;  
  display: -ms-flexbox;  
  display: flex;  
  -ms-flex-direction: column;  
  flex-direction: column;  
  min-width: 0;  
  word-wrap: break-word;  
  background-color: #fff;  
  background-clip: border-box;  
  border: 1px solid rgba(0, 0, 0, 0.125);  
  border-radius: 0.25rem;  
}  
  
.card-body {  
  -ms-flex: 1 1 auto;  
  flex: 1 1 auto;  
  padding: 1.25rem;  
}  
  
.card-title {  
  margin-bottom: 0.75rem;  
}  
  
.card-subtitle {  
  margin-top: -0.375rem;  
  margin-bottom: 0;  
}  
  
.card-footer {  
  padding: 0.75rem 1.25rem;  
  background-color: rgba(0, 0, 0, 0.03);  
  border-top: 1px solid rgba(0, 0, 0, 0.125);  
}
```



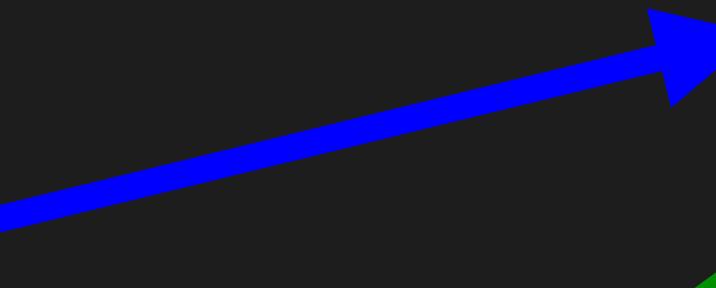
```
.card {  
  position: relative;  
  display: -ms-flexbox;  
  display: flex;  
  -ms-flex-direction: column;  
  flex-direction: column;  
  min-width: 0;  
  word-wrap: break-word;  
  background-color: #fff;  
  background-clip: border-box;  
  border: 1px solid rgba(0, 0, 0, 0.125);  
  border-radius: 0.25rem;  
}
```



```
.card-body {  
  -ms-flex: 1 1 auto;  
  flex: 1 1 auto;  
  padding: 1.25rem;  
}
```



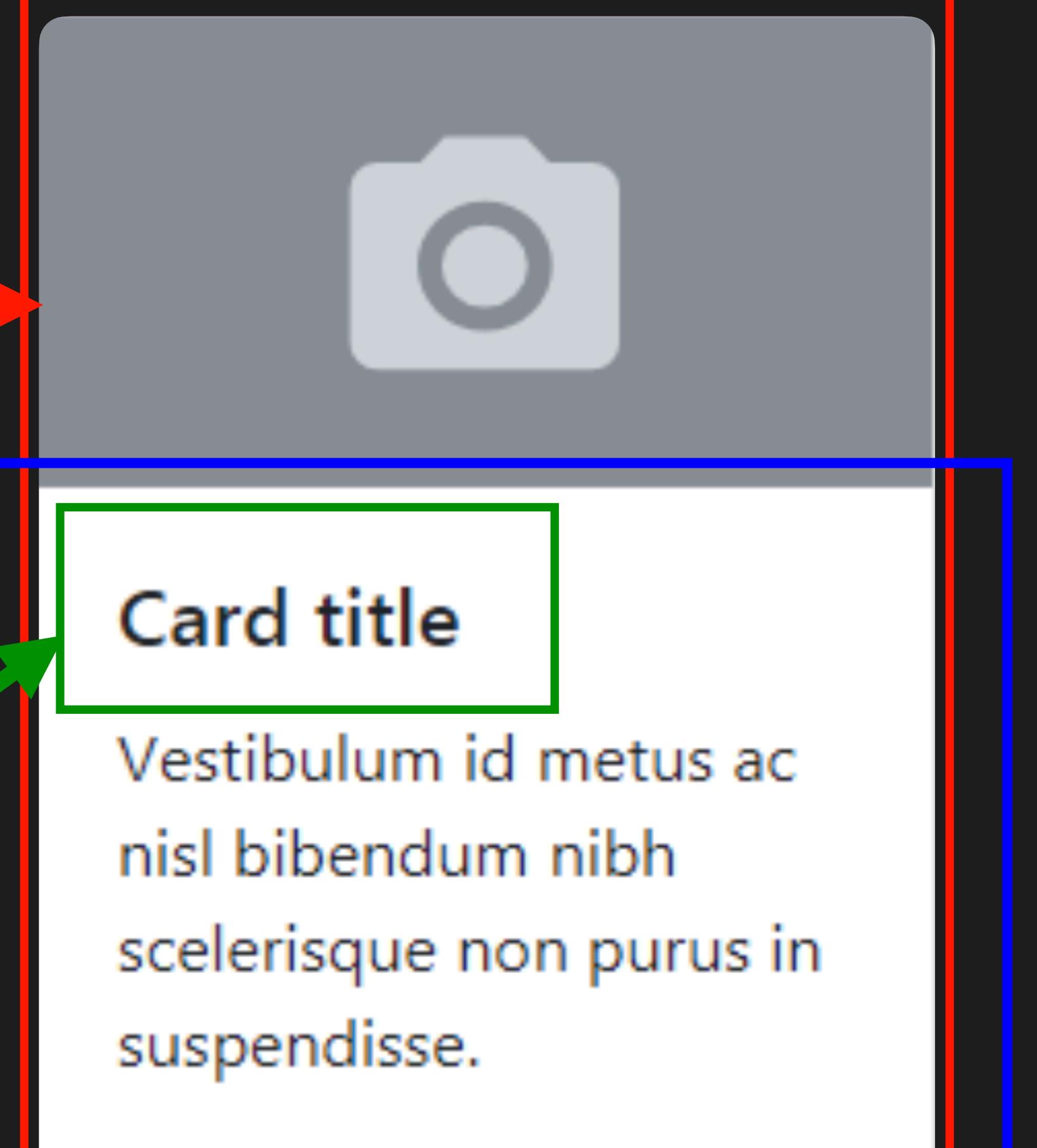
```
.card-title {  
  margin-bottom: 0.75rem;  
}
```



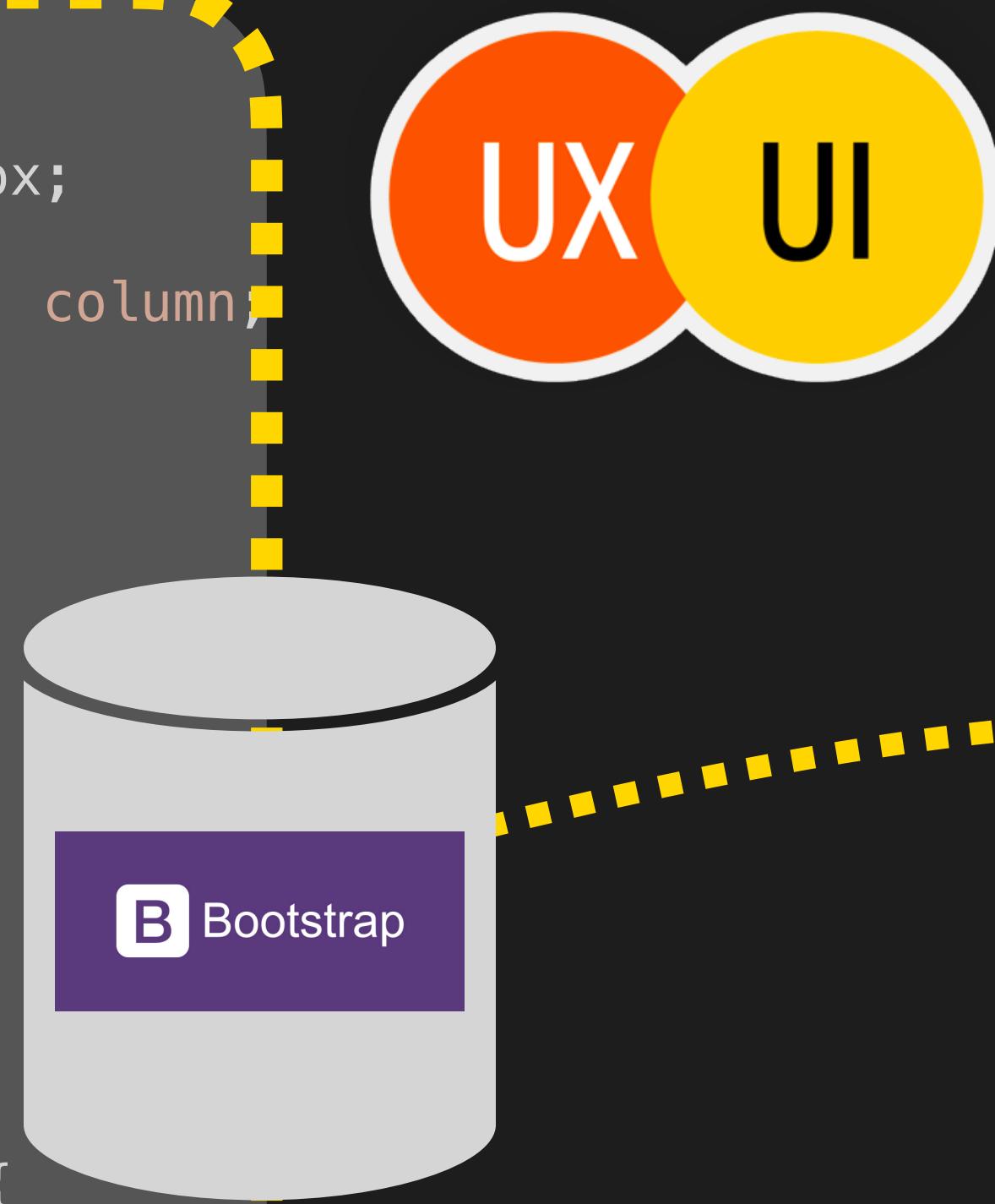
```
.card-subtitle {  
  margin-top: -0.375rem;  
  margin-bottom: 0;  
}
```



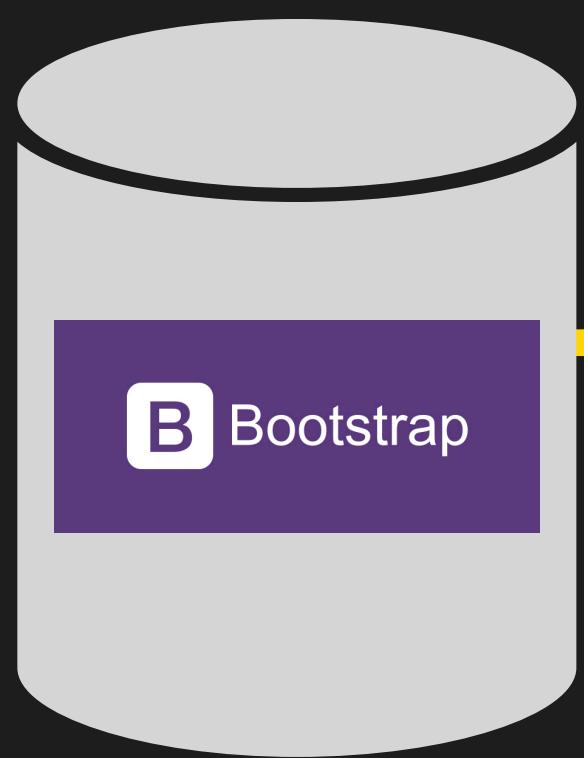
```
.card-footer {  
  padding: 0.75rem 1.25rem;  
  background-color: rgba(0, 0, 0, 0.03);  
  border-top: 1px solid rgba(0, 0, 0, 0.125);  
}
```



```
.card {  
  position: relative;  
  display: -ms-flexbox;  
  display: flex;  
  -ms-flex-direction: column;  
  .....  
}  
  
.card-body {  
  .....  
}  
  
.card-title {  
  .....  
}  
  
.card-text:last-child {  
  .....  
}  
  
.card-subtitle {  
  .....  
}  
  
.card-footer {  
  .....  
}  
  
.bg-primary {  
  background-color: #007bff;  
}
```



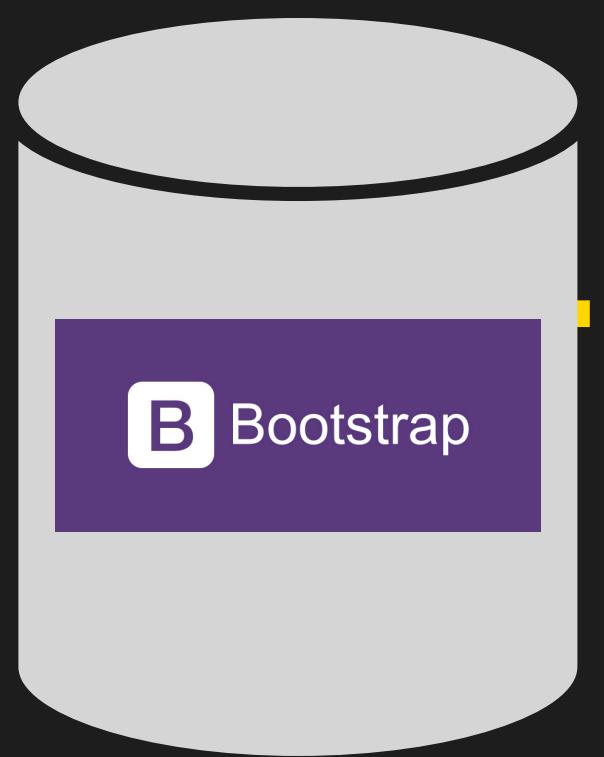
```
<link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/  
4.3.1/css/bootstrap.min.css"  
integrity="sha384-gg0yR0iXCbMQv3Xipma34MD+dH/1fQ784/j6cY/  
iTQUOhcWr7x9JvoRxT2MZw1T" crossorigin="anonymous">
```



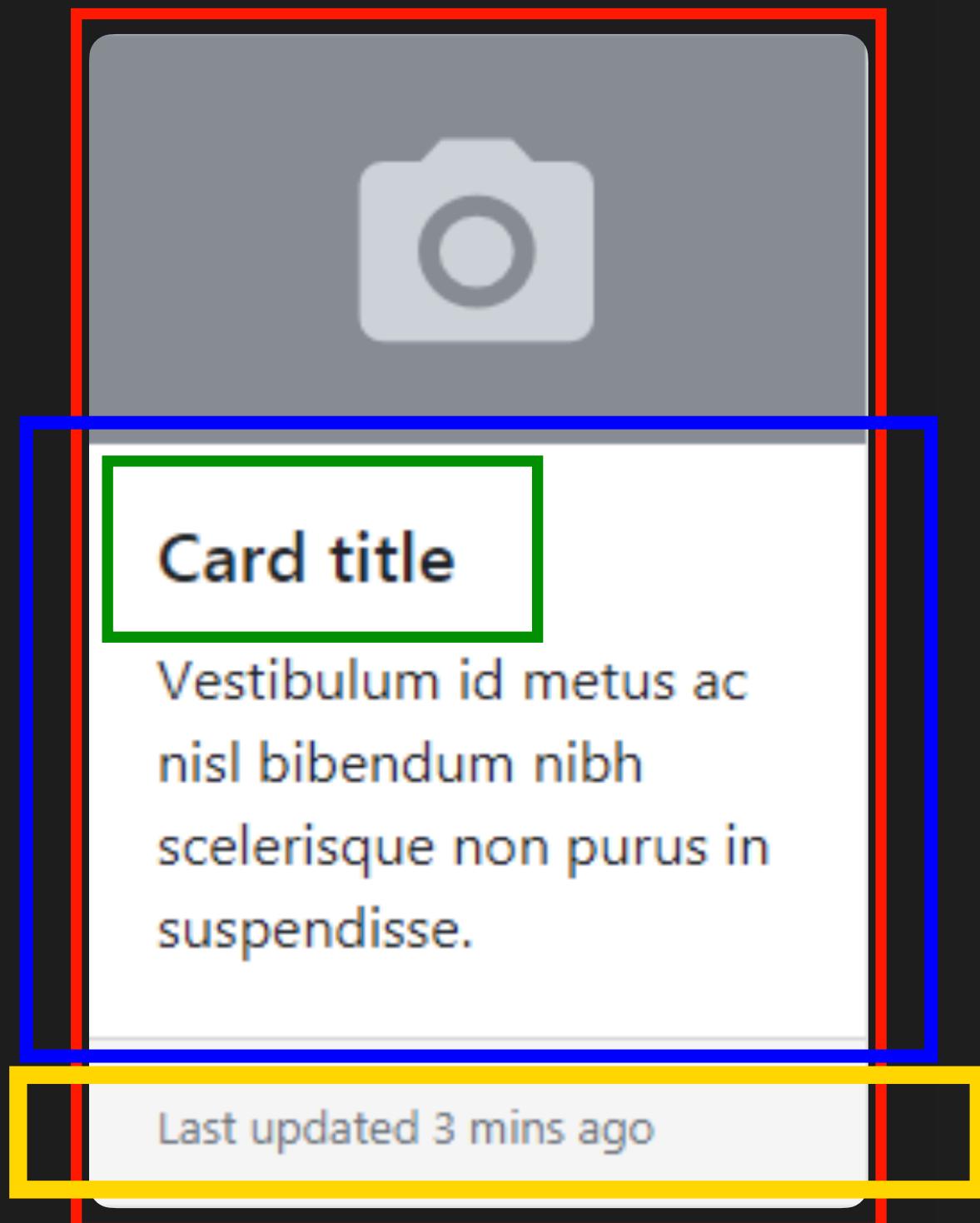
```
<link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/css/  
bootstrap.min.css"  
integrity="sha384-gg0yR0iXCbMQv3Xipma34MD+dH/1fQ784/j6cY/iJTQUOhcWr7x9JvoRxT2MZw1T"  
crossorigin="anonymous">
```



```
<div class="card h-100 shadow" v-for="time in now(location.weatherElement, 'Wx')">  
  <a href="#">  
      
  </a>  
  <div class="card-body">  
    <h4 class="card-title">  
      <a href="#">{{location.locationName}}</a>  
    </h4>  
    <h5>  
      {{time.parameter.parameterName}}  
    </h5>  
    <p class="card-text">{{time.startTime}} {{time.endTime}}</p>  
  </div>  
  <div class="card-footer">  
    <small class="text-muted">&#9733; &#9733; &#9733; &#9733; &#9734;</small>  
  </div>  
</div>
```



```
<link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/css/  
bootstrap.min.css"  
integrity="sha384-gg0yR0iXCbMQv3Xipma34MD+dH/1fQ784/j6cY/iJTQUOhcWr7x9JvoRxT2MZw1T"  
crossorigin="anonymous">
```

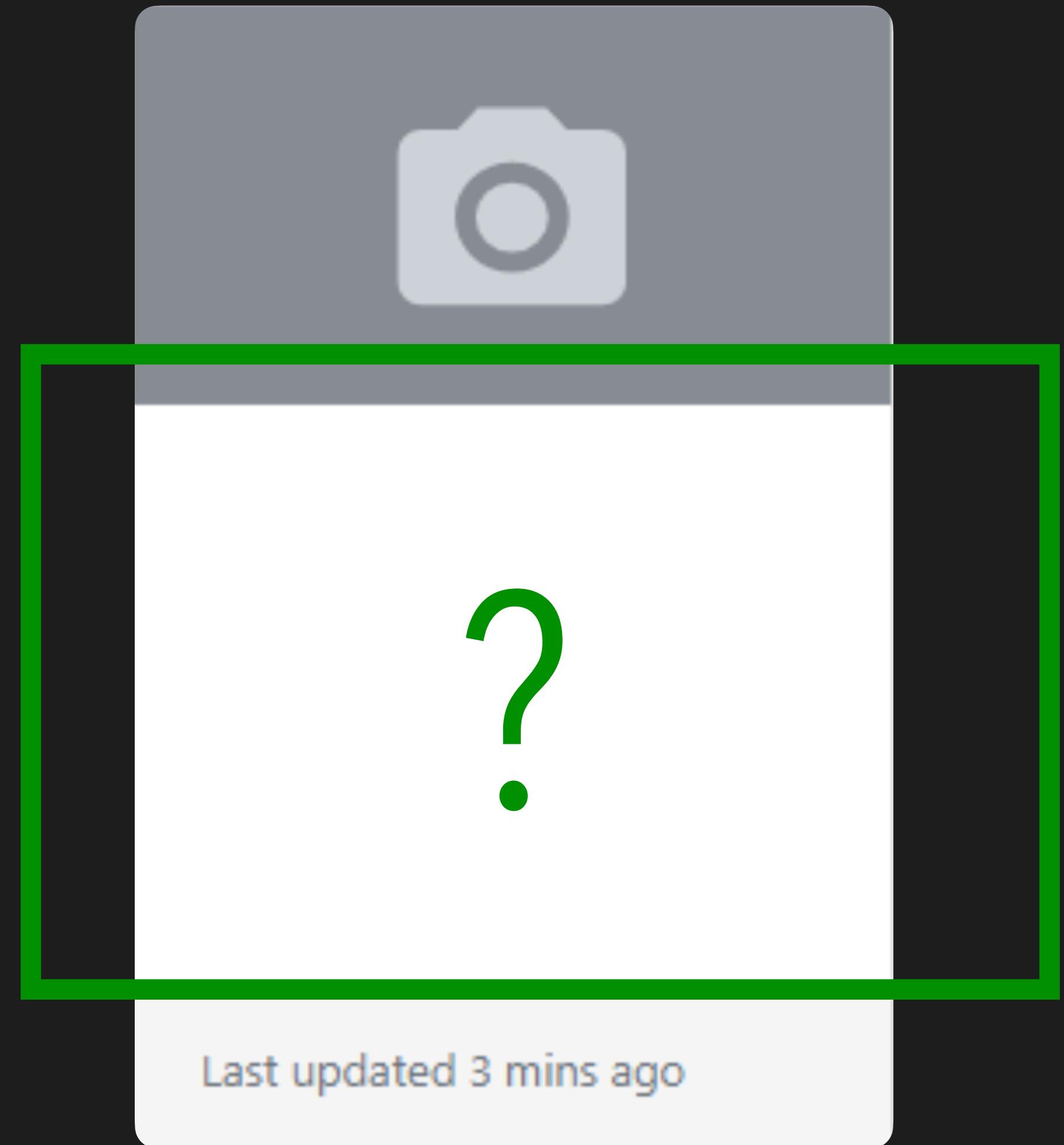


```
<div class="card h-100 shadow" v-for="time in now(location.weatherElement, 'Wx')">  
  <a href="#">  
      
  </a>  
  <div class="card-body">  
    <h4 class="card-title">  
      <a href="#">{{location.locationName}}</a>  
    </h4>  
    <h5>  
      {{time.parameter.parameterName}}  
    </h5>  
    <p class="card-text">{{time.startTime}} {{time.endTime}}</p>  
  </div>  
  <div class="card-footer">  
    <small class="text-muted">&#9733; &#9733; &#9733; &#9733; &#9734;</small>  
  </div>  
</div>
```

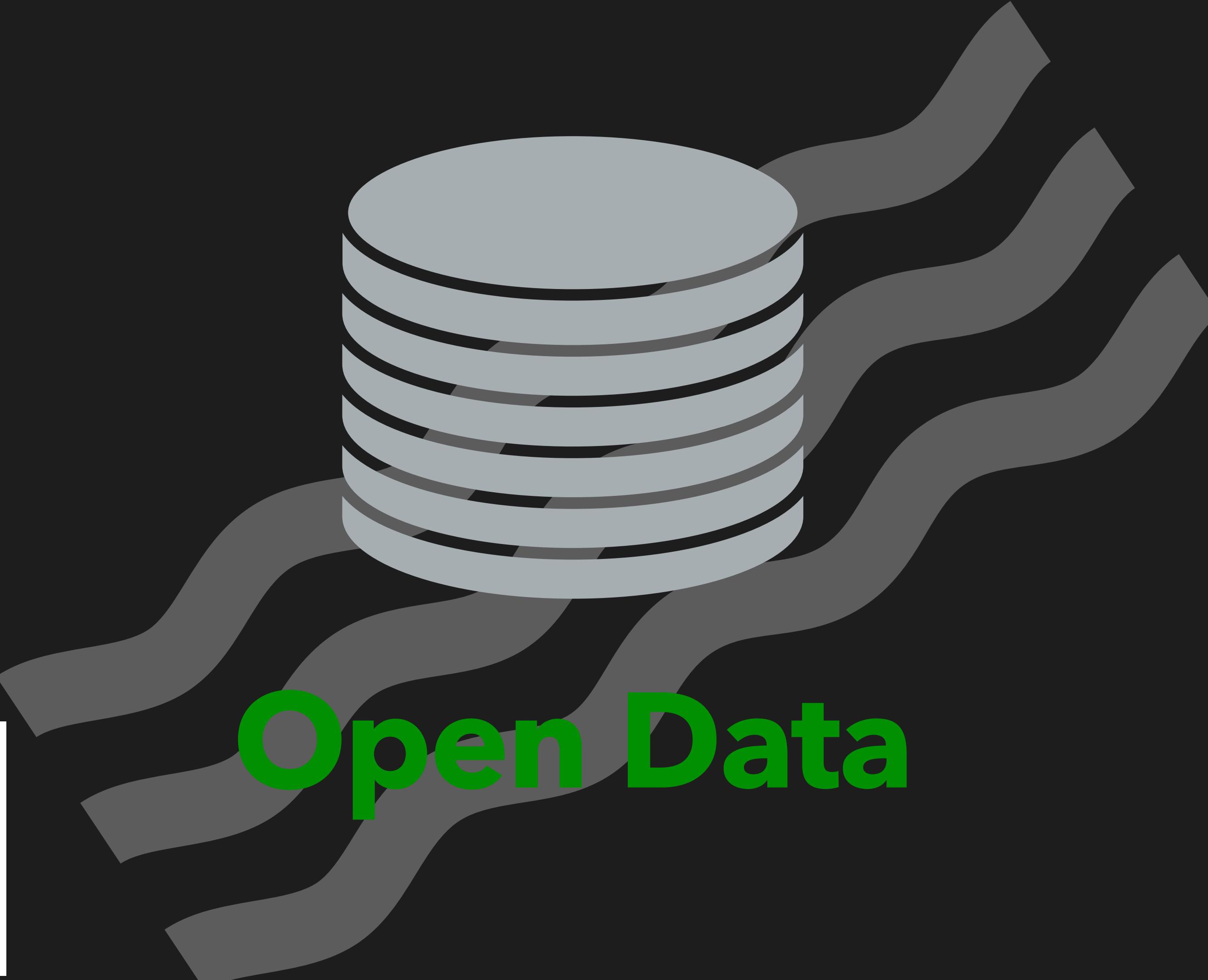


?

Last updated 3 mins ago



# Open Data



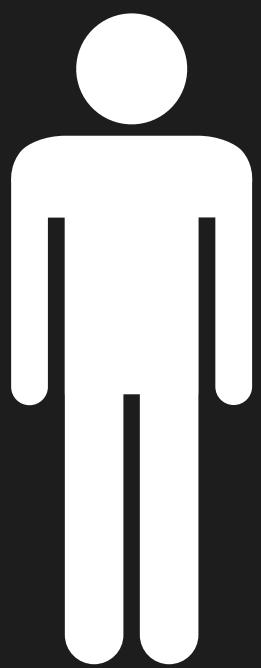
Epidemiologist

Official

Meteorologists

Analyst

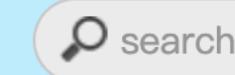
Statisticians



Open Data



氣象資料開放平臺  
OPEN WEATHER DATA



search

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公告事項 ▾ 資料主題 ▾ 開發指南 ▾ 應用活化 ▾ 推廣發展 ▾ 常見問答 會員資訊 ▾

訪客人次 14,450,803 人



總下載次數 1,714,720,715 最近一個月下載次數 170,529,224



# 中央氣象局開放資料平臺之資料擷取API 1.0.0

[ Base URL: opendata.cwb.gov.tw/api ]

[/apidoc/v1](#)

提供目前開放資料之擷取API

Schemes

HTTPS

## 預報 ▼

**GET** /v1/rest/datastore/F-C0032-001 一般天氣預報-今明 36 小時天氣預報

**GET** /v1/rest/datastore/F-D0047-001 鄉鎮天氣預報-宜蘭縣未來2天天氣預報

**GET** /v1/rest/datastore/F-D0047-003 鄉鎮天氣預報-宜蘭縣未來1週天氣預報

**GET** /v1/rest/datastore/F-D0047-005 鄉鎮天氣預報-桃園市未來2天天氣預報

**GET** /v1/rest/datastore/F-D0047-007 鄉鎮天氣預報-桃園市未來1週天氣預報

**GET** /v1/rest/datastore/F-D0047-009 鄉鎮天氣預報-新竹縣未來2天天氣預報

**GET** /v1/rest/datastore/F-D0047-011 鄉鎮天氣預報-新竹縣未來1週天氣預報

**GET** /v1/rest/datastore/F-D0047-013 鄉鎮天氣預報-苗栗縣未來2天天氣預報

## 預報 ▼

GET /v1/rest/datastore/F-C0032-001 一般天氣預報-今明 36 小時天氣預報

臺灣各縣市天氣預報資料及國際都市天氣預報

### Parameters

[Cancel](#)

Name	Description
------	-------------

**Authorization** \* required

string 氣象開放資料平台會員授權碼

(query)

CWB-71C11495-3B87-4B89-B6AC-275E7F4C3E87

limit

number

(query)

限制最多回傳的資料, 預設為回傳全部筆數

100

offset

number

(query)

指定從第幾筆後開始回傳, 預設為第 0 筆開始回傳

offset - 指定從第幾筆後開始回傳, 預設為第 0 筆開始回

format

string

(query)

回傳資料格式, 預設為 json 格式

-- ▾

locationName

array [string]

(query)

臺灣各縣市, 預設為回傳全部縣市

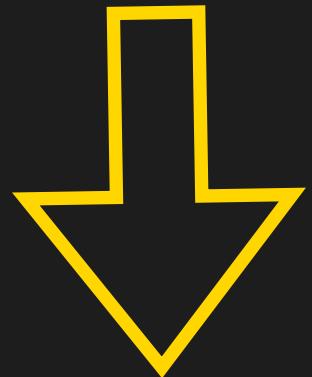
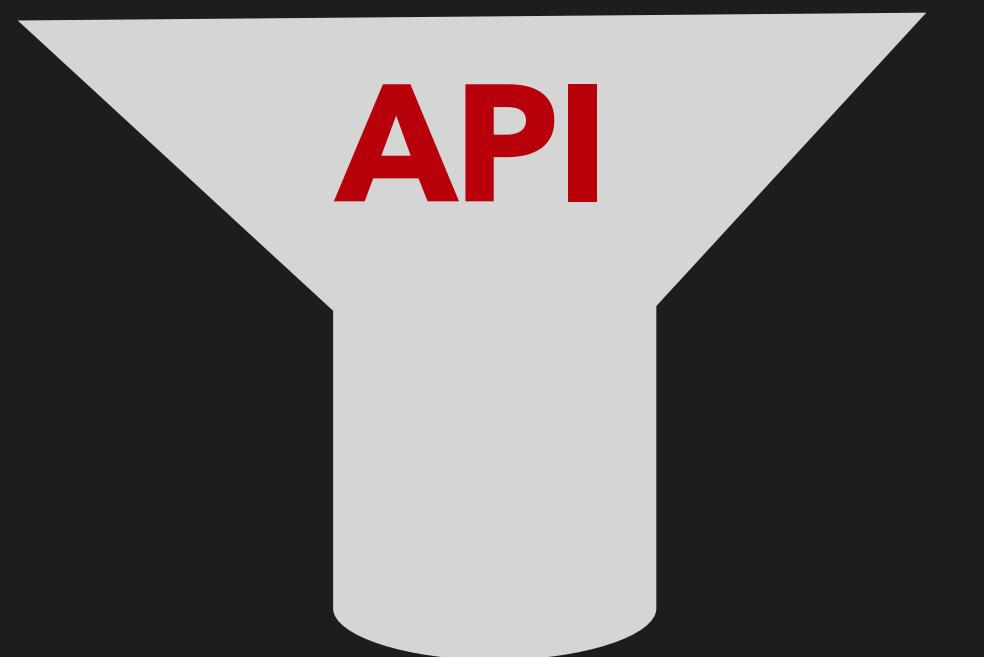
--

宜蘭縣

花蓮縣

臺東縣

**Count of Data**      **Token**  
**City Name**      **Time Interval**



**Request URL**

Request URL

`https://opendata.cwb.gov.tw/api/v1/rest/datastore/F-C0032-001?Authorization=CWB-71C11495-3B87-4B89-B6AC-275E7F4C3E87&limit=100`

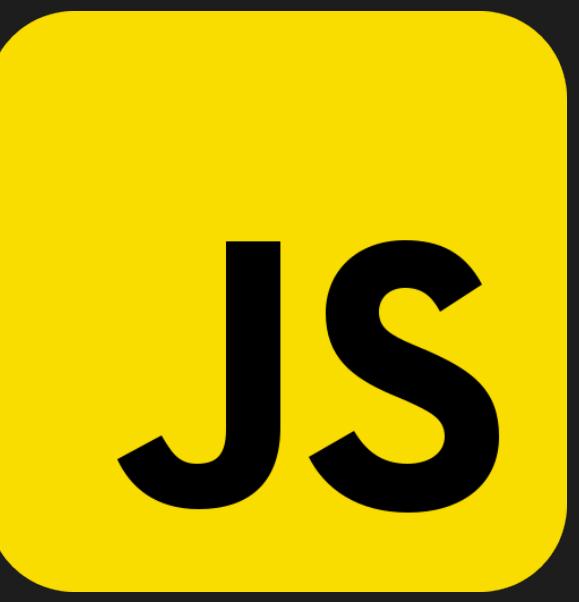
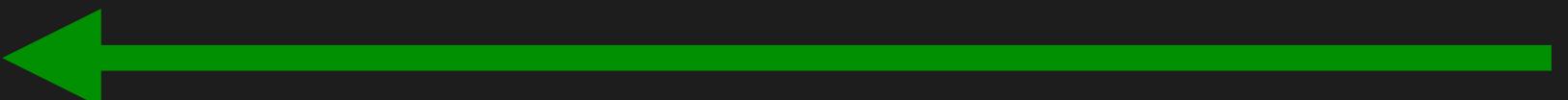
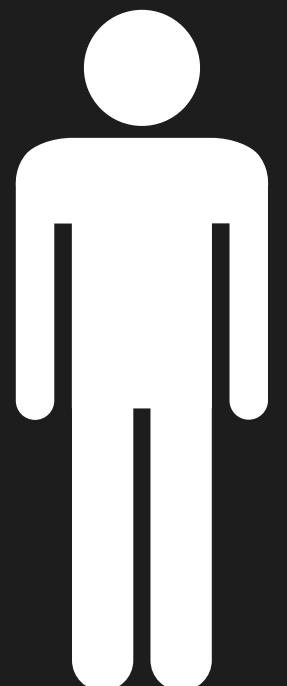
# Property

```
records": {  
  "datasetDescription": "三十六小時天氣預報",  
  
  "location": [  
  
    {  
      "locationName": "嘉義縣",  
  
      "weatherElement": [  
  
        {  
          "elementName": "Wx",  
  
          "time": [  
  
            {  
              "startTime": "2020-09-19 00:00:00",  
              "endTime": "2020-09-19 06:00:00",  
  
              "parameter": {  
                "parameterName": "多雲",  
                "parameterValue": "4"  
              }  
            },  
  
            {  
              "startTime": "2020-09-19 06:00:00",  
              "endTime": "2020-09-19 18:00:00",  
  
              "parameter": {  
                "parameterName": "多雲時晴",  
                "parameterValue": "3"  
              }  
            },  
            ...  
          ]  
        ]  
      ]  
    ]  
  ]  
}
```

# Request URL



# Response Data



```
let url = `https://opendata.cwb.gov.tw/api/v1/rest/datastore  
/F-C0032-001?Authorization=CWB-71C11495-3B87-4B89-B6AC-275E7F4C3E87&elementName=wx`;
```

.....



```
axios  
.get(url)
```

```
.then(  
  response => (this.locations = response.data.records.location)  
)
```

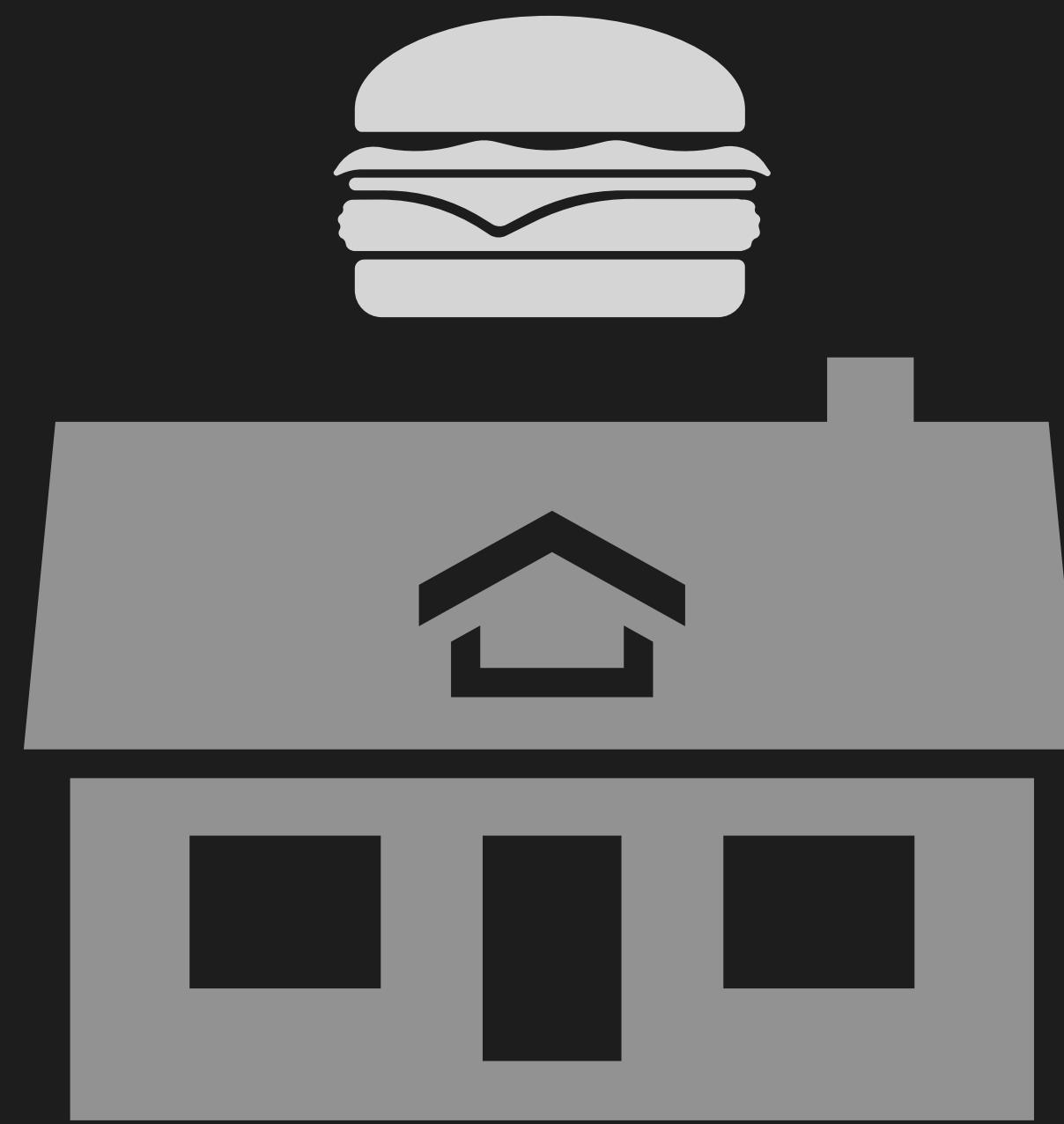
```
.catch(function (error) { // request error  
  console.log(error);  
  alert(error);  
});
```

# Response Data

```
<div class="card h-100 shadow" v-for="time in now(location.weatherElement, 'Wx')">
  <a href="#">
    
  </a>
  <div class="card-body">
    <h4 class="card-title">
      <a href="#">{{location.locationName}}</a>
    </h4>
    <h5>
      {{time.parameter.parameterName}}
    </h5>
    <p class="card-text">{{time.startTime}}</p>
    <div class="ml-5 mb-3"><i class="fas fa-arrow-down"></i></div>
    <p class="card-text">{{time.endTime}}</p>
  </div>
  <div class="card-footer">
    <small class="text-muted">&#9733; &#9733; &#9733; &#9733; &#9734;</small>
  </div>
</div>
```

# Pattern Of Abstraction

- Computer Science
- Mathematics
- Art
- Social Science



170cm



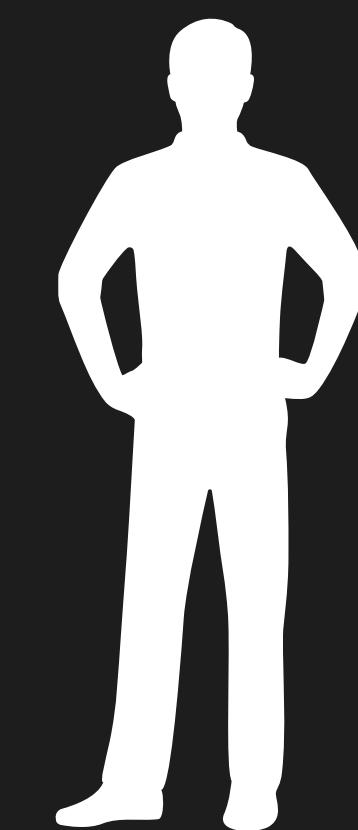
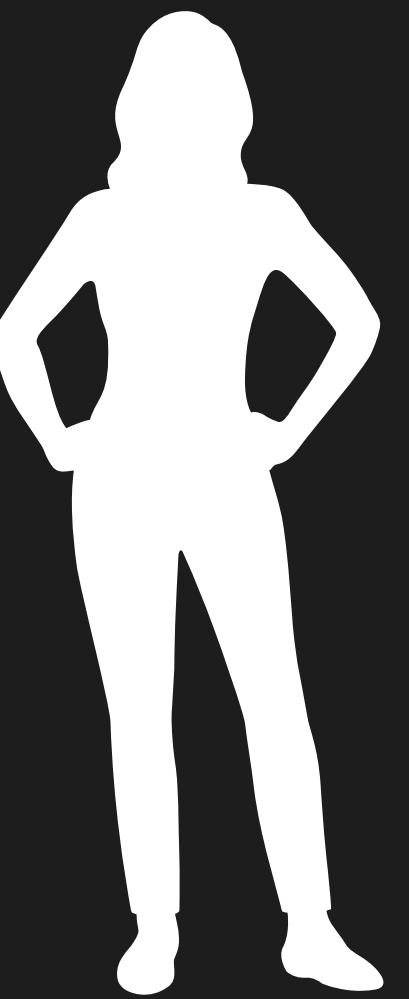
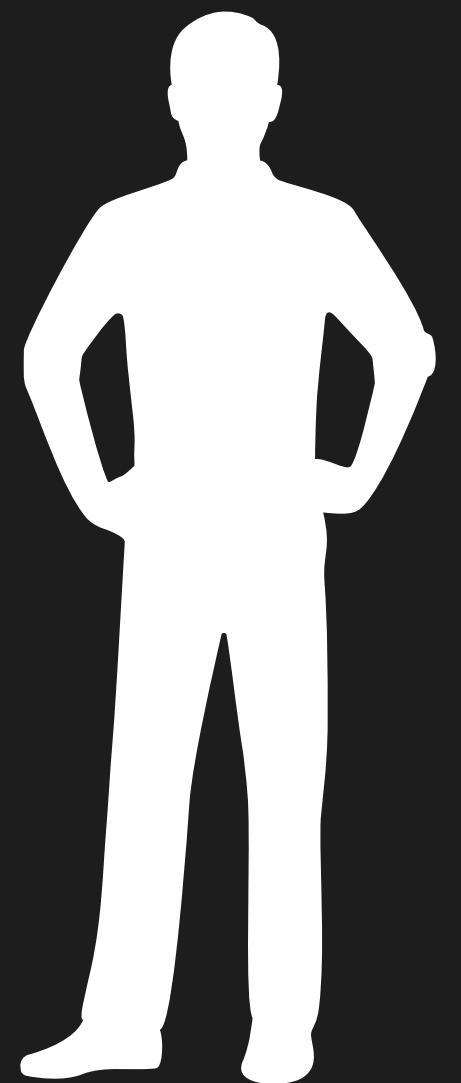
Spanish

12 Years Old

Female

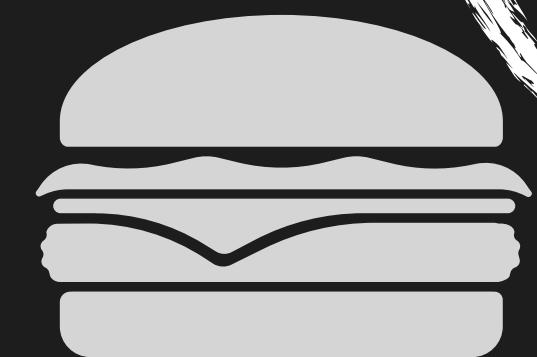
Spanish

Aggressive

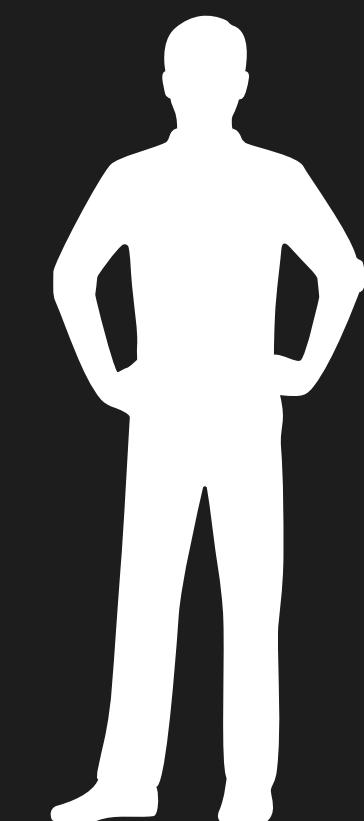
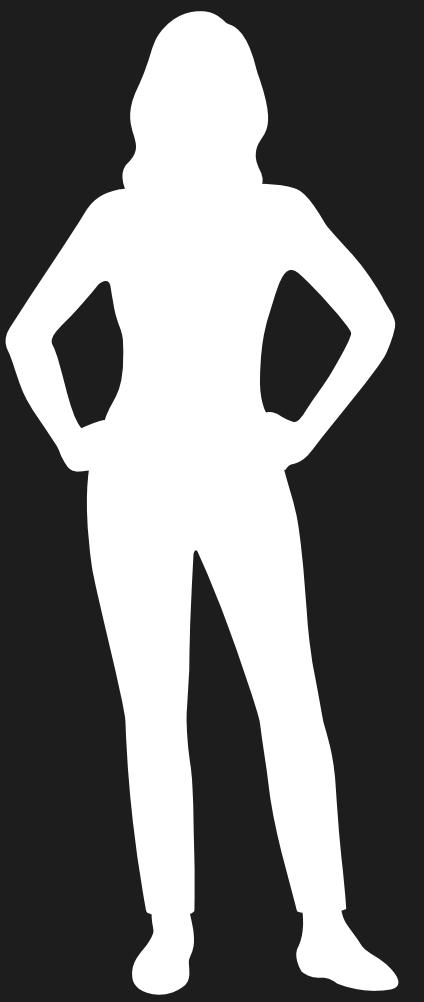
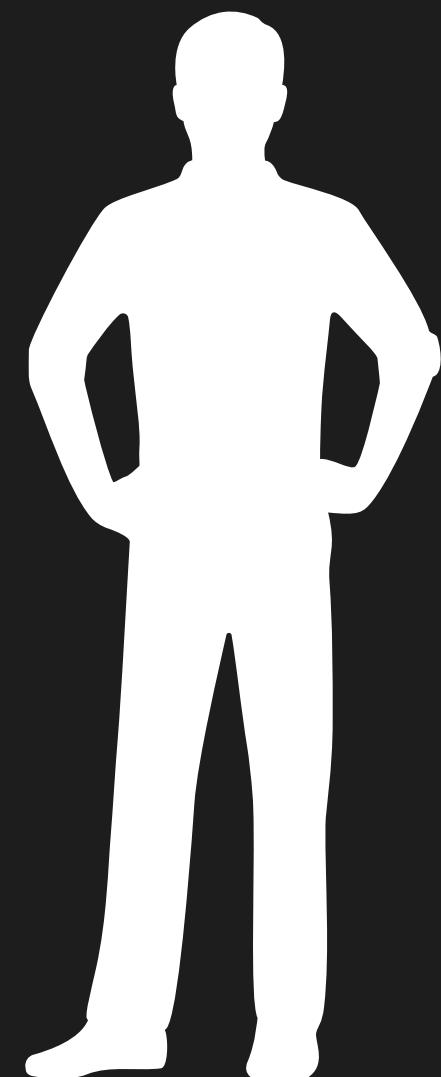


Abstraction

$$1 + 1 + 1 + 1 = 4$$



170cm



Spanish

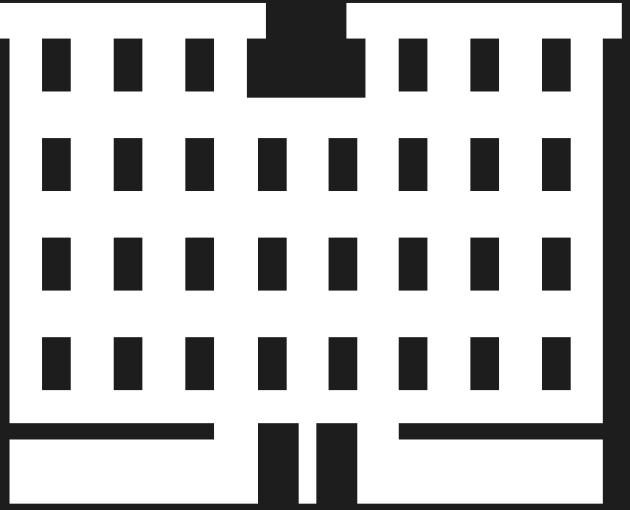
12 Years Old

Female

Spanish

Aggressive



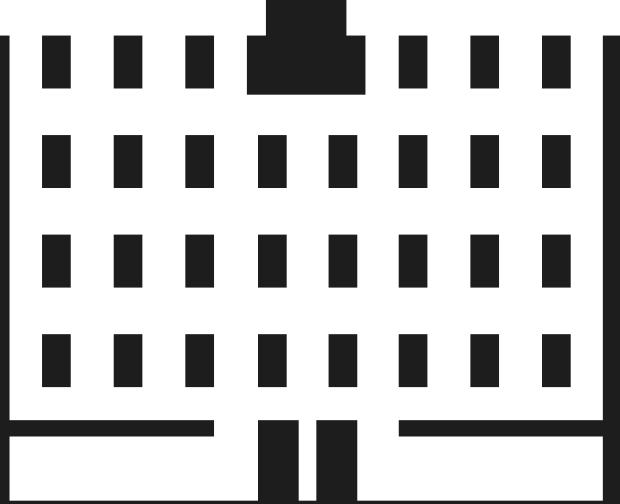


Market

Enterprise

Law

Society



# Market

Pice  
Index

NASDAQ  
Index

Economy...

# Enterprise

Salary

Personal  
skills

Management

# Law

Income Tax

Relationship

History

# Pros and Cons of Abstraction

# Pros Of Abstraction

- Efficiency
- Technology Progression
- Moral Society (Maybe ?)

# Cons Of Abstraction

- Resource Waste -> First Principle
- Less Innovative in Some Degree
- Fake News