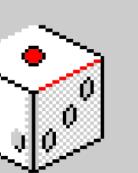
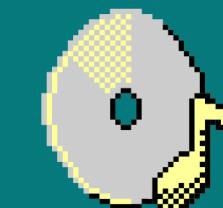
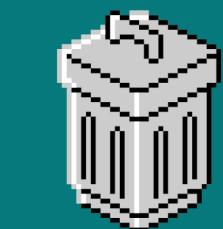
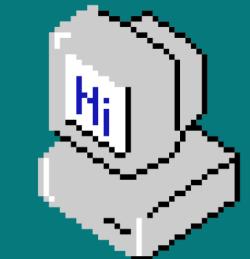


MongoDB

CSIT372 - Advanced Database Systems



Jash Popat & Jeet Shah



11:11PM

Topics Covered

Start

What?

How?

Where?

Why?

Decoding MongoDB

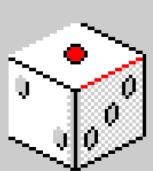
!

i

What is MongoDB?



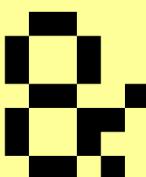
MongoDB was founded in 2007 by Dwight Merriman, Eliot Horowitz, and Kevin Ryan, the team behind DoubleClick.



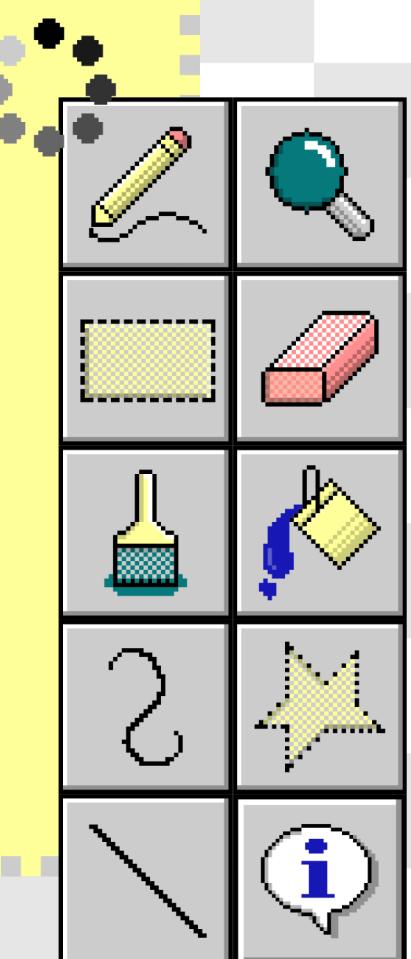
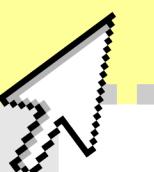
[Back to Agenda Page](#)



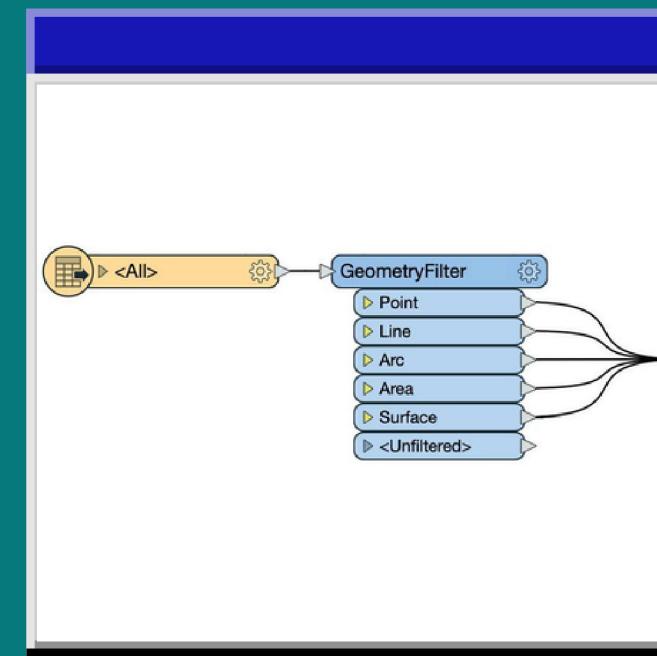
**Open-Sourced
since 2009**



**Cross-Platform
Availability**



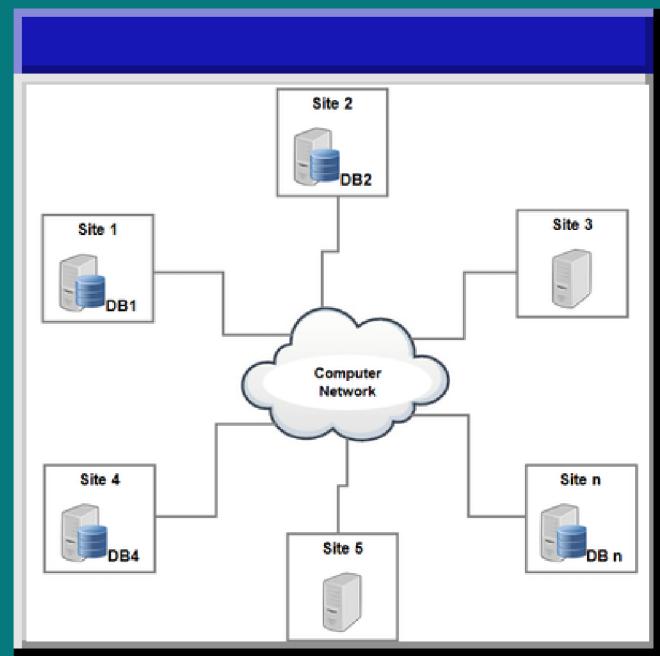
NoSQL Database



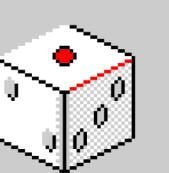
Non-Relational
Dynamic Schema



Horizontal Scaling
Change to the data structure
stored can be done on the fly



Distributed
Easy vertical scaling

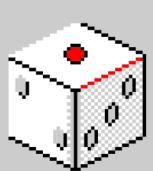


[Back to Agenda Page](#)

How is MongoDB?



The image shows a presentation slide with a blue header bar containing a red 'X' button. The main content area features a large blue speech bubble icon with a white 'i' symbol. Below the icon, the text reads: "MongoDB deadlocks are like a BSON fight". At the bottom of the slide is a navigation bar with arrows and a progress bar.



[Back to Agenda Page](#)

```
},
"React Function": "prefix": "f",
"body": [
  "const ha
],
"descri
}
```

```
package.json ✘
1 {
2   "name": "myapplication",
3   "description": "some description h
4   "version": "0.0.1",
5   "private": true,
6   "scripts": {
7     "start": "node ./bin/www"
8   },
9   "dependencies": {
10     "express": "~4.12.2",
11     "jade": "~1.9.2"
12   }
13 }
```

```
type : "donut",
"name": "Cake",
"description": "https://www.jqueryscript.net",
"price": 2.55,
►"available": { 2 items },
▼ "topping": [
  ▼ {
    "id": 5001,
    "type": "None"
  },
  ▼ {
    "id": 5002,
    "type": "Glazed"
  }
]
```

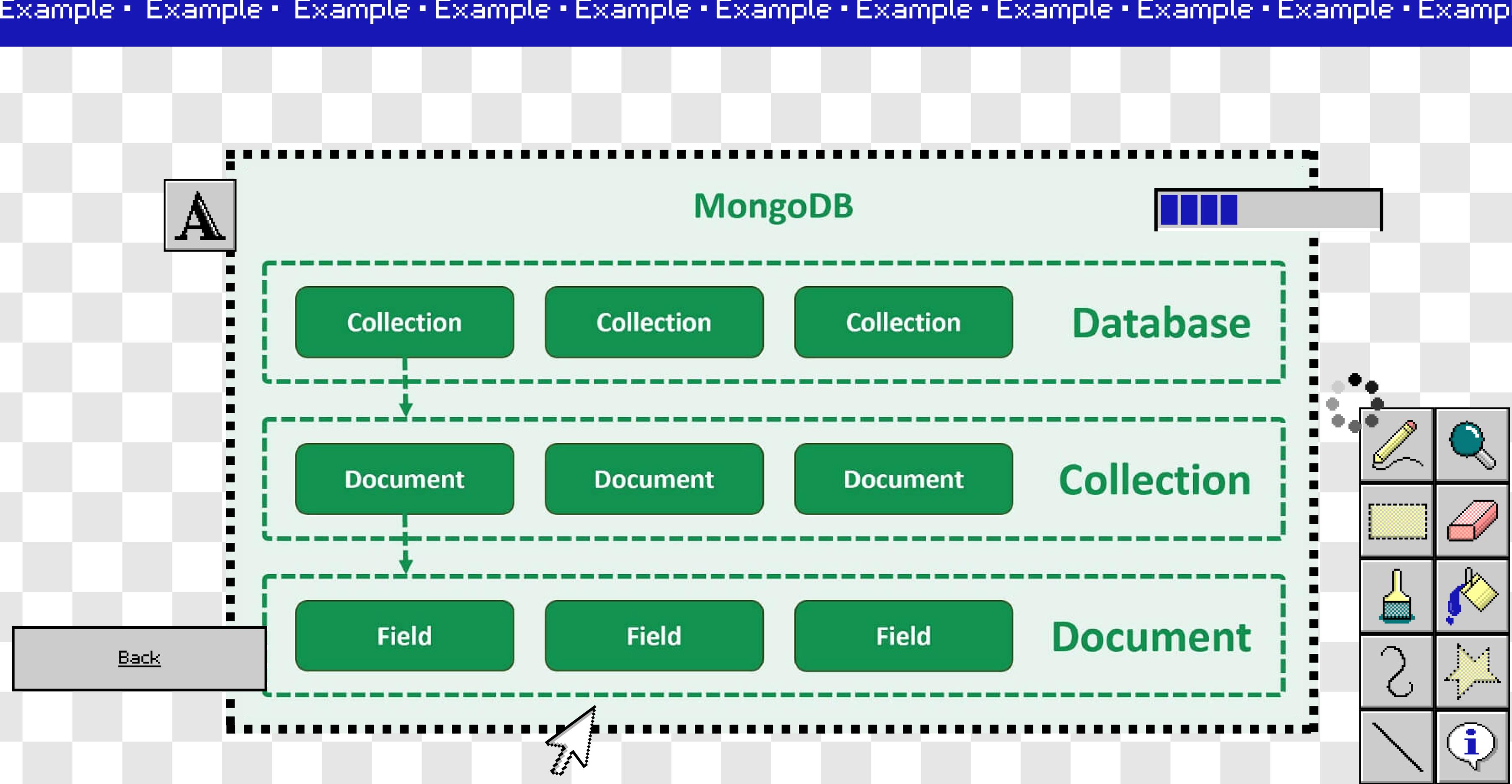
```
ngKey": "s [json] Value expected
ctionKey": function() {
  console.log('function called!')
```

```
[{"GFGUserName": "User-1", "NoOfProblems": "150", "TotalScore": "100", "Articles": "30"}, {"GFGUserName": "User-2", "NoOfProblems": "100", "TotalScore": "75", "Articles": "30"}, {"GFGUserName": "User-3", "NoOfProblems": "200", "TotalScore": "50", "Articles": "10"}, {"GFGUserName": "User-4", "NoOfProblems": "50", "TotalScore": "5", "Articles": "2"}, {"GFGUserName": "User-5", "NoOfProblems": "0", "TotalScore": "0", "Articles": "1"}]
```

Back

Document Based Approach

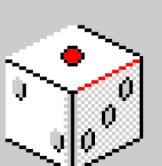
```
typescript.json C:\Users\martinae\A
1 {
2  /*
3   Place your snippets
4   description. The pre
5   variables are: $1, $2
6   are connected.
7 */
8   "class": {
9     "prefix": "clas",
10    "body": [
11      "class $1 $2 {\n        \"$t$0\",\n        \"$\""
12    ],
13    "description": "
14  }
```



Datatypes

BSON is JSON serialized into binary, thus allowing for more exhaustive datatypes

BSON > JSON

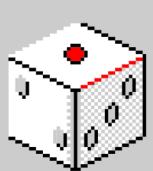


[Back to Agenda Page](#)

Where is MongoDB?

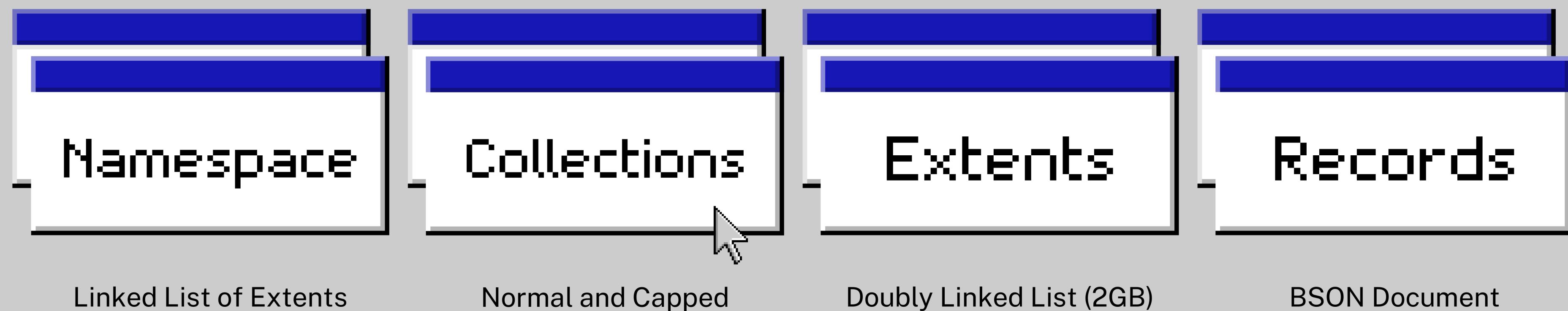


MongoDB has its headquarters in New York, United States of America



[Back to Agenda Page](#)

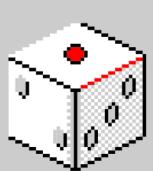
File Structure



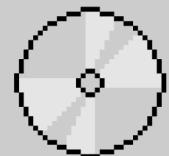
How is where in MongoDB?



Nobody knows who invented B+ Trees, but it was first mentioned in a paper by IBM in 1973

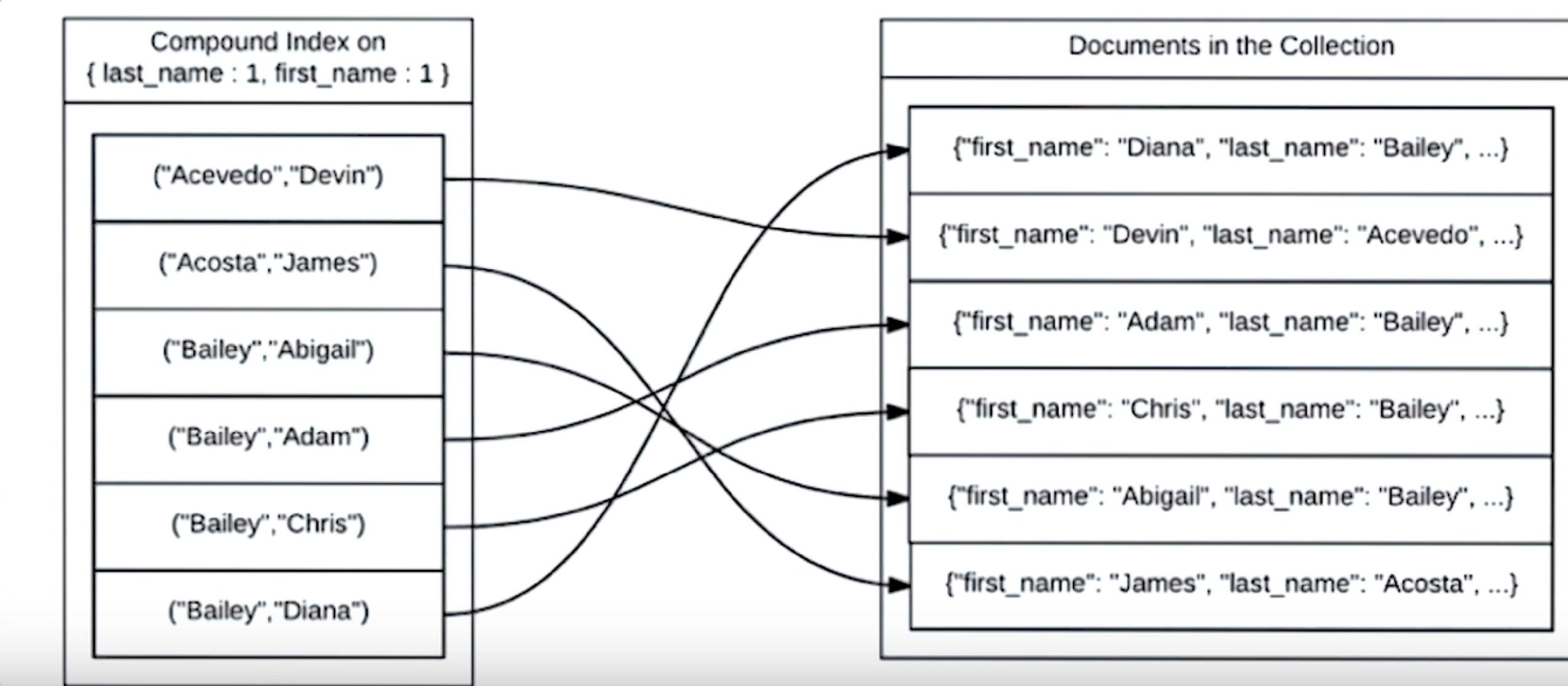


[Back to Agenda Page](#)



Indexing

Using B+ Trees



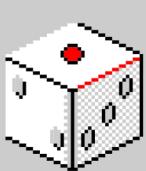
[Back](#)

Why is MongoDB?



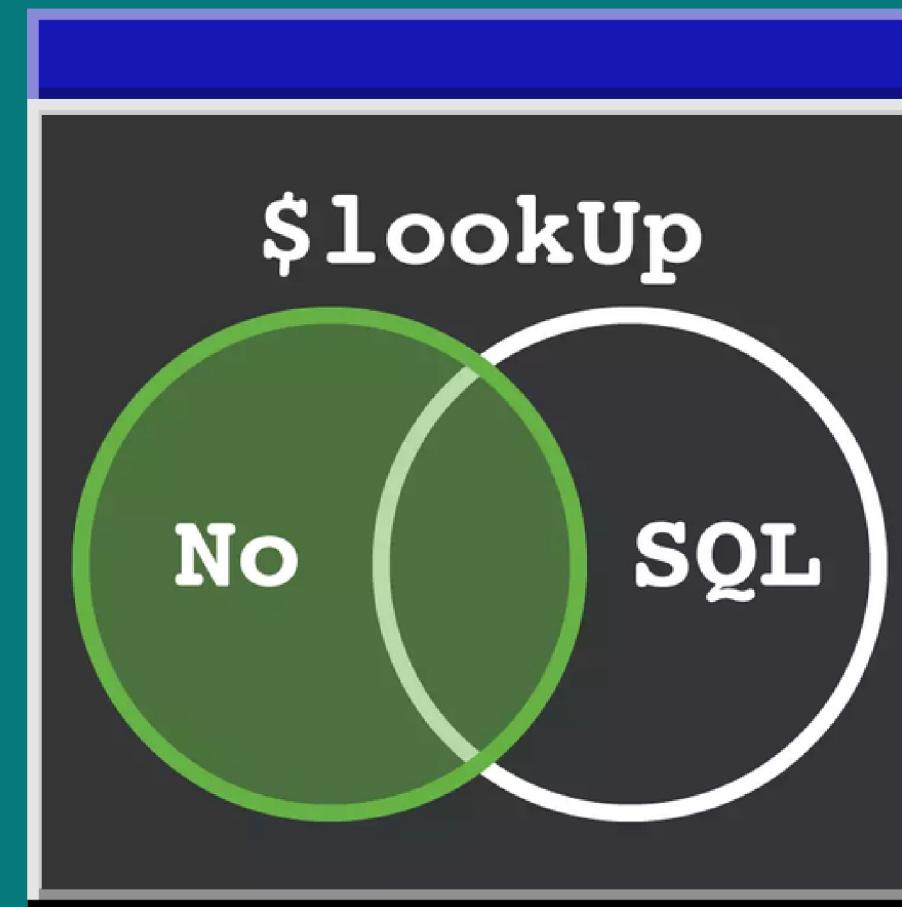
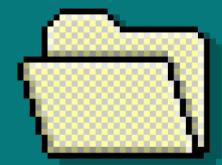
MongoDB was founded in 2007 by Dwight Merriman, Eliot Horowitz, and Kevin Ryan, the team behind DoubleClick.

i

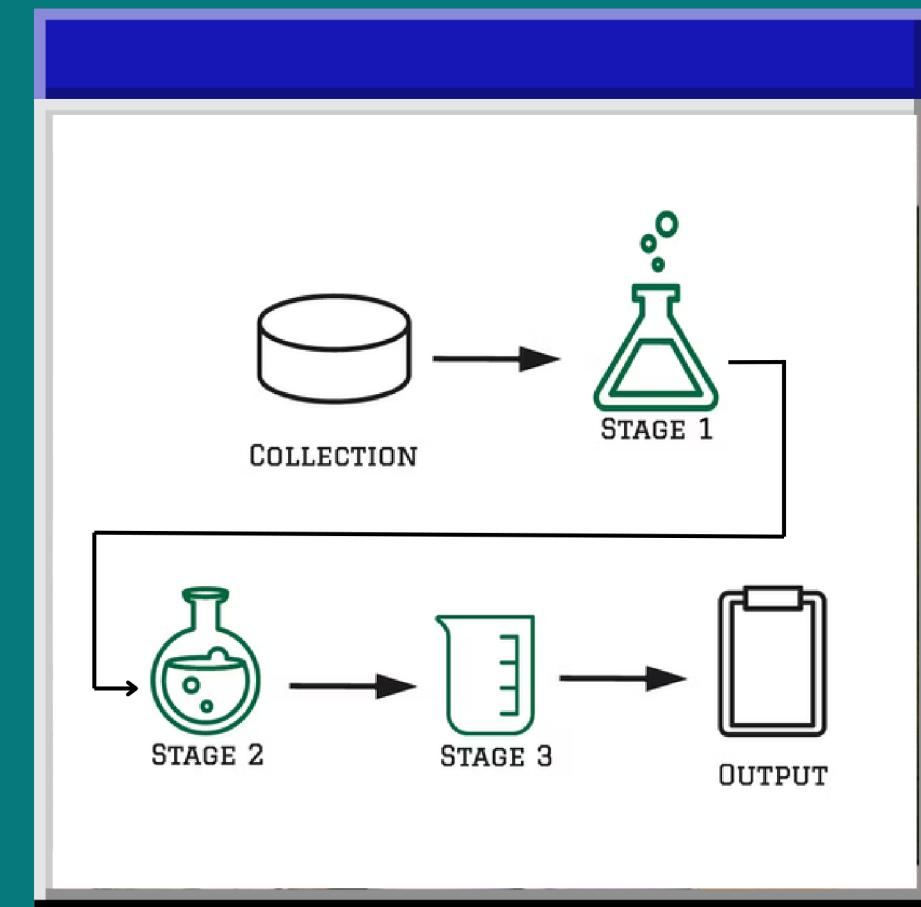


[Back to Agenda Page](#)

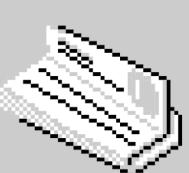
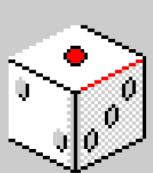
Aggregation



MongoDB Join

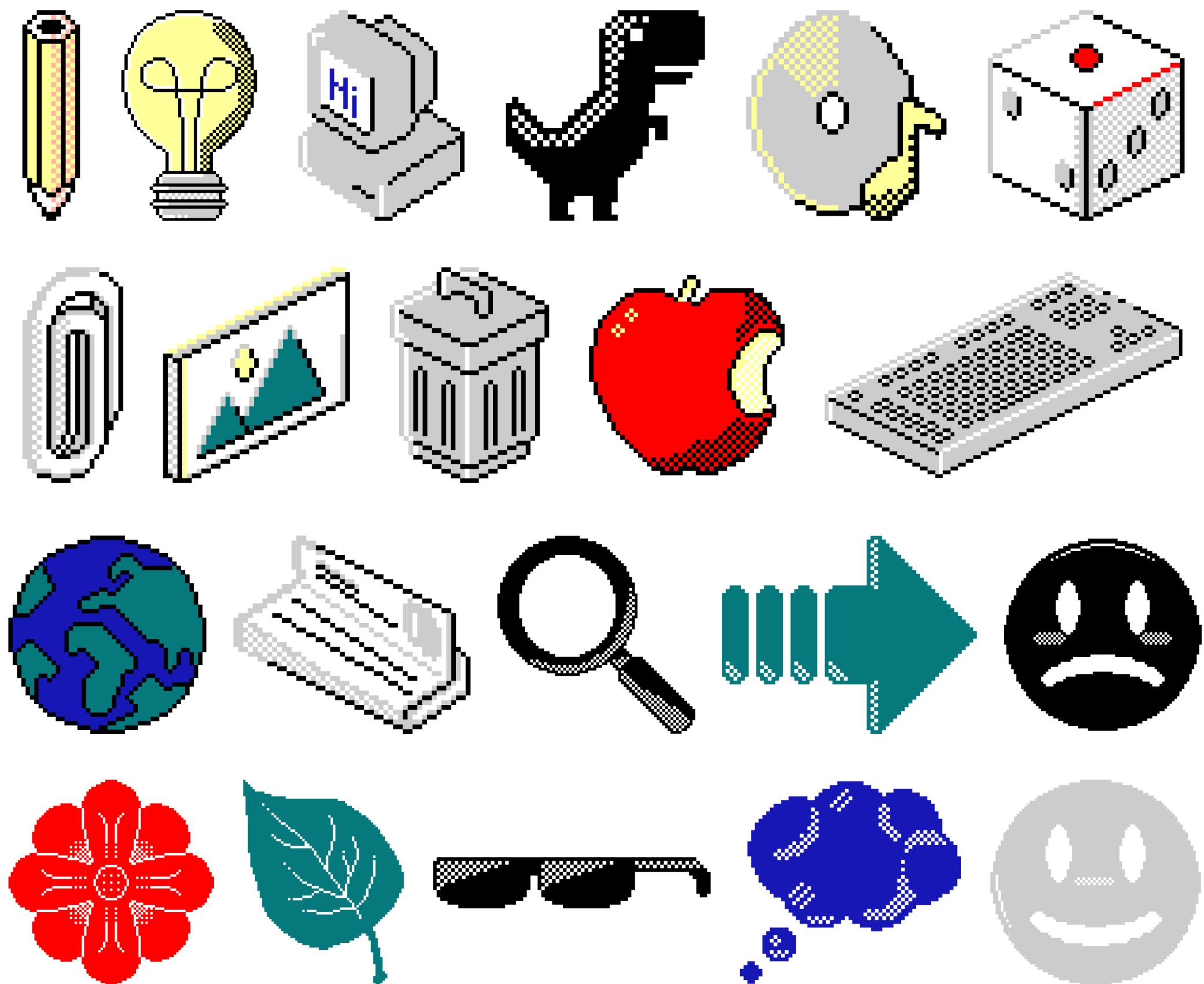


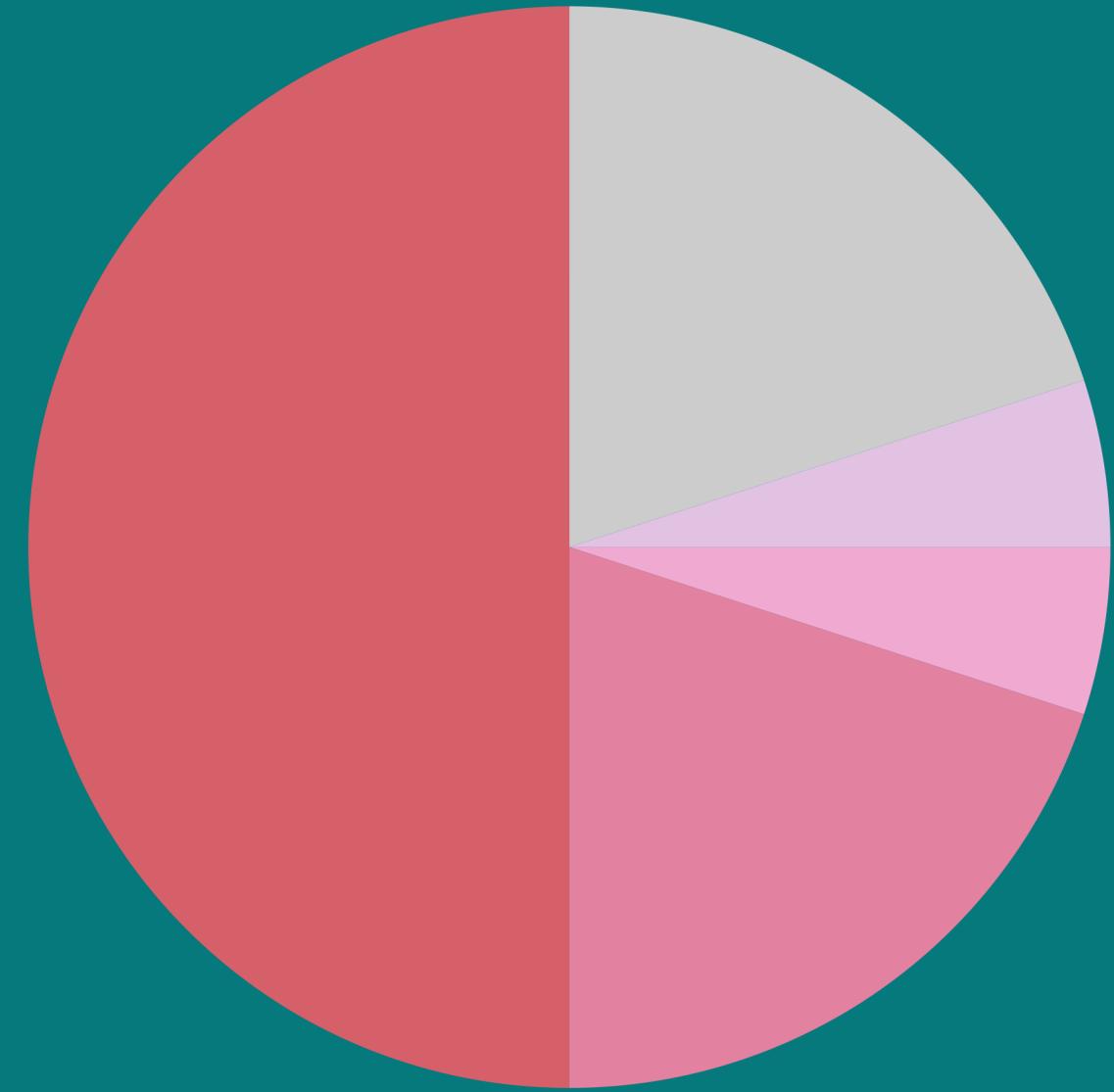
Pipeline



[Back to Agenda Page](#)

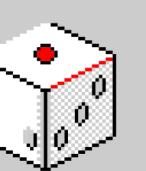
Data Normalization



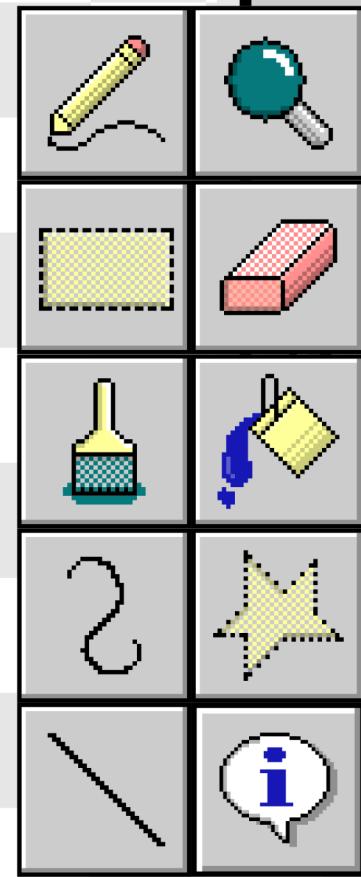


Example

Figuring out MongoDB



[Back](#)



Thank you!