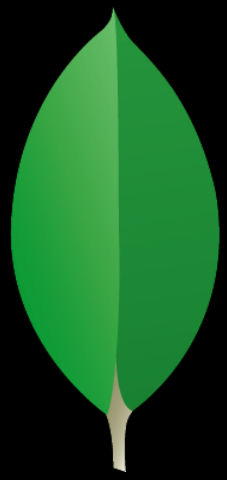


mongoDB

@jon_fuller

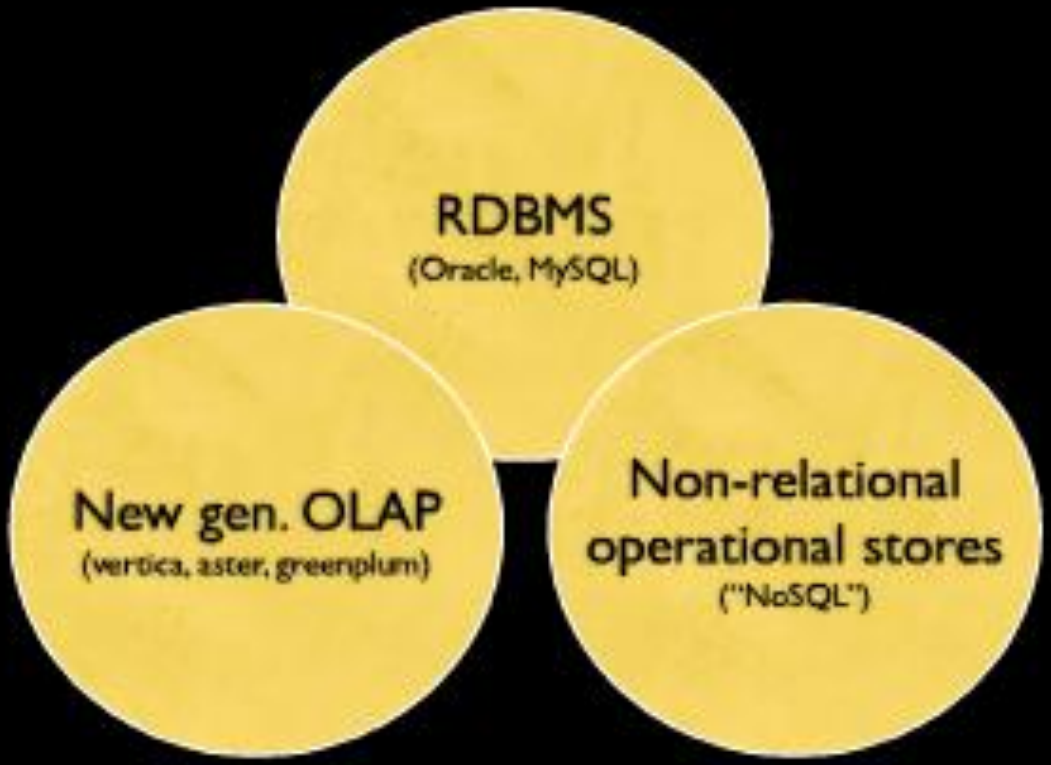
- practicing apprentice
- not MongoDB expert (sorry)
- not SQL/RDBMS expert (not sorry)
- president http://indyalt.net

Huh?

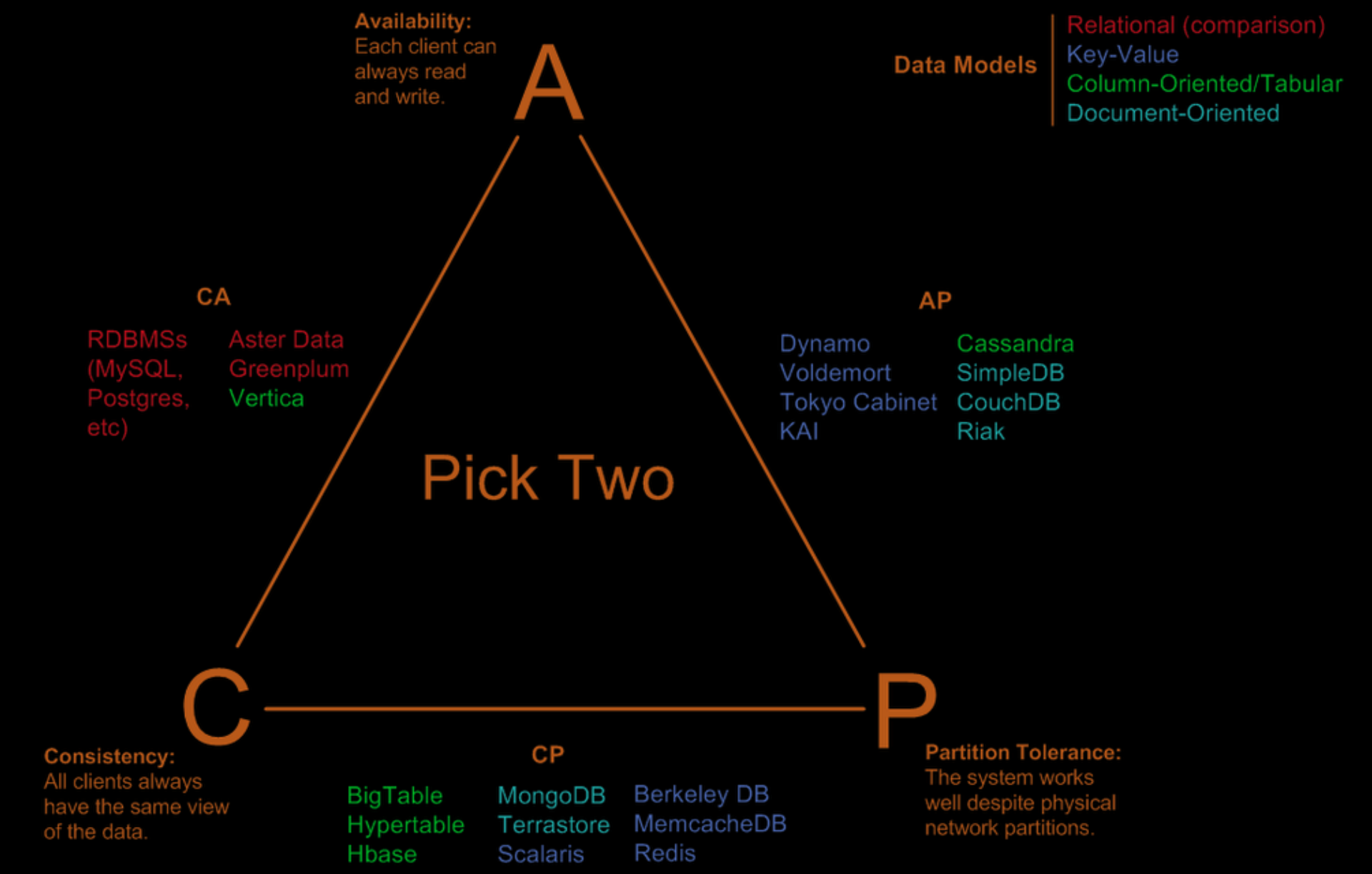
Let’s Be Clear

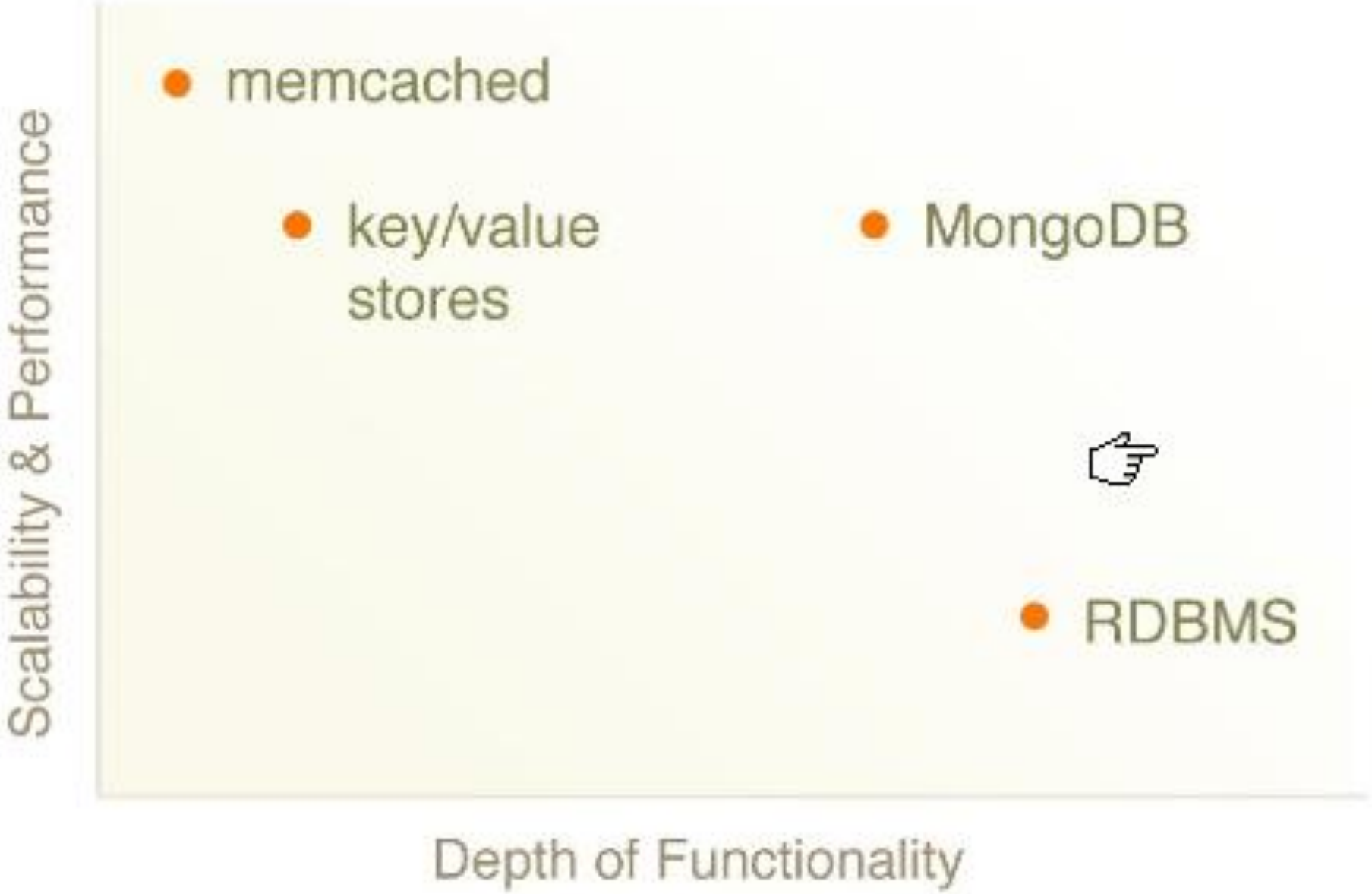

NEO VS AGENT SMITH
THE MATRIX: REVOLUTIONS
FOX STUDIOS AUSTRALIA, DECEMBER 2003
WWW.THEMATRIX.COM

One-Size-Fits-All No Longer

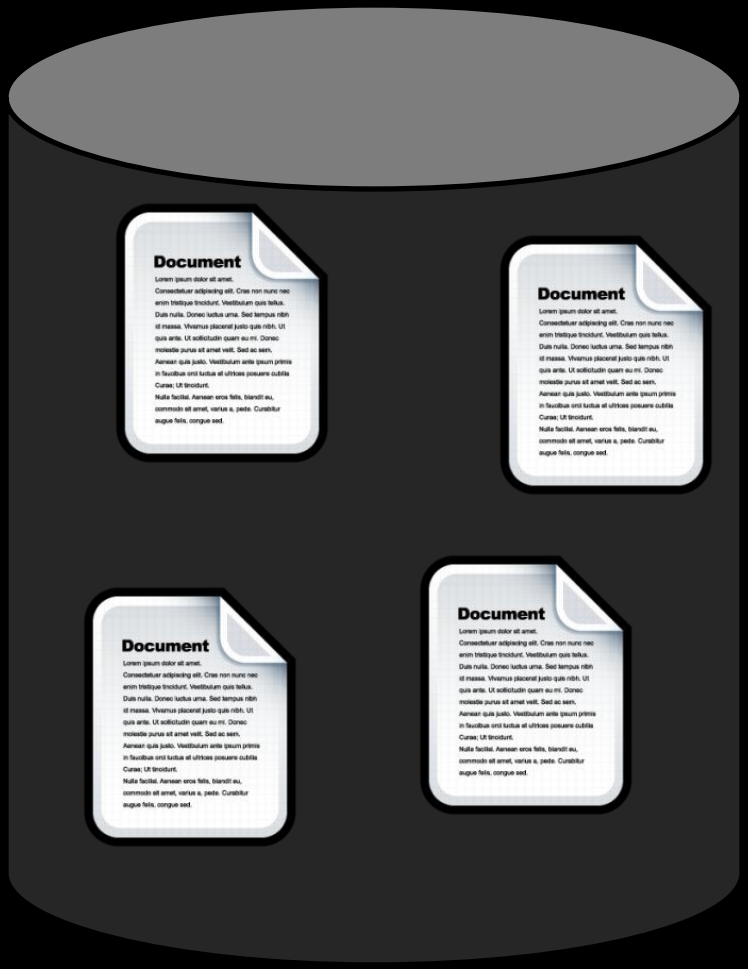


Visual Guide to NoSQL Systems




memcached
key/value stores
MongoDB
RDBMS
Scalability & Performance
Depth of Functionality

Document DB



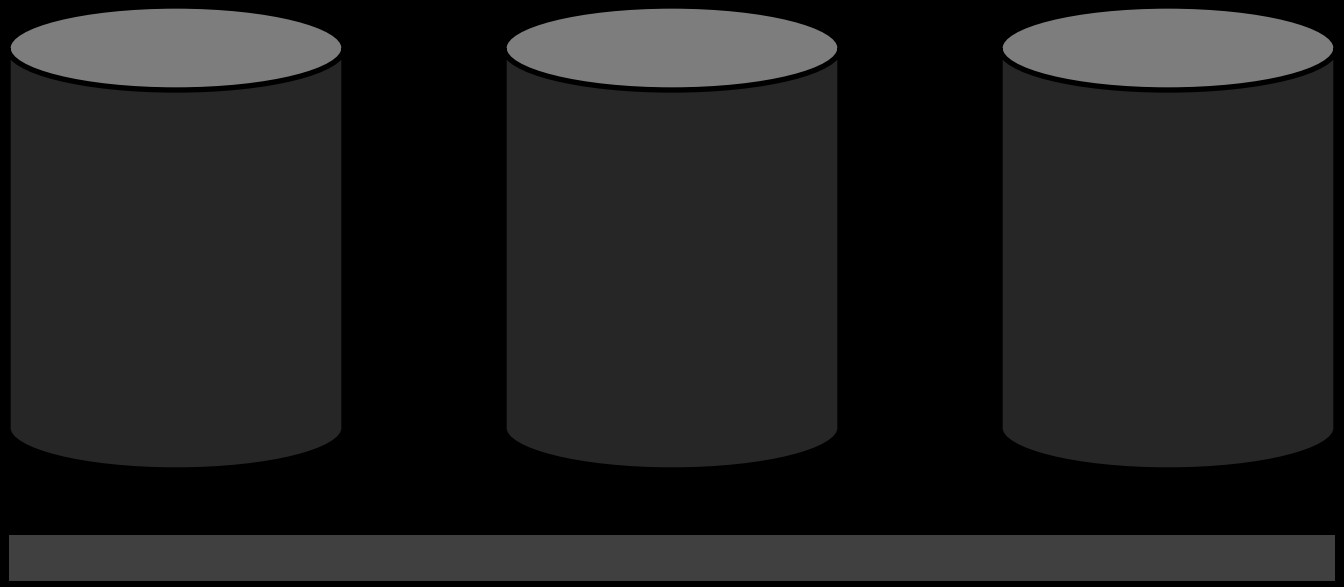

```
first_name: ‘Jon’

last_name: ‘Fuller’

address:

 line_1: ‘659 Danforth’

 line_2: ‘Apt 234’

 zip: 46032
```

NoSQL

NoSchema

No Joins!

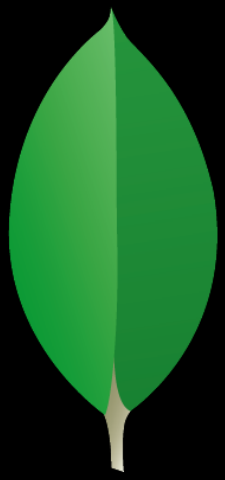
(sort of)



Client

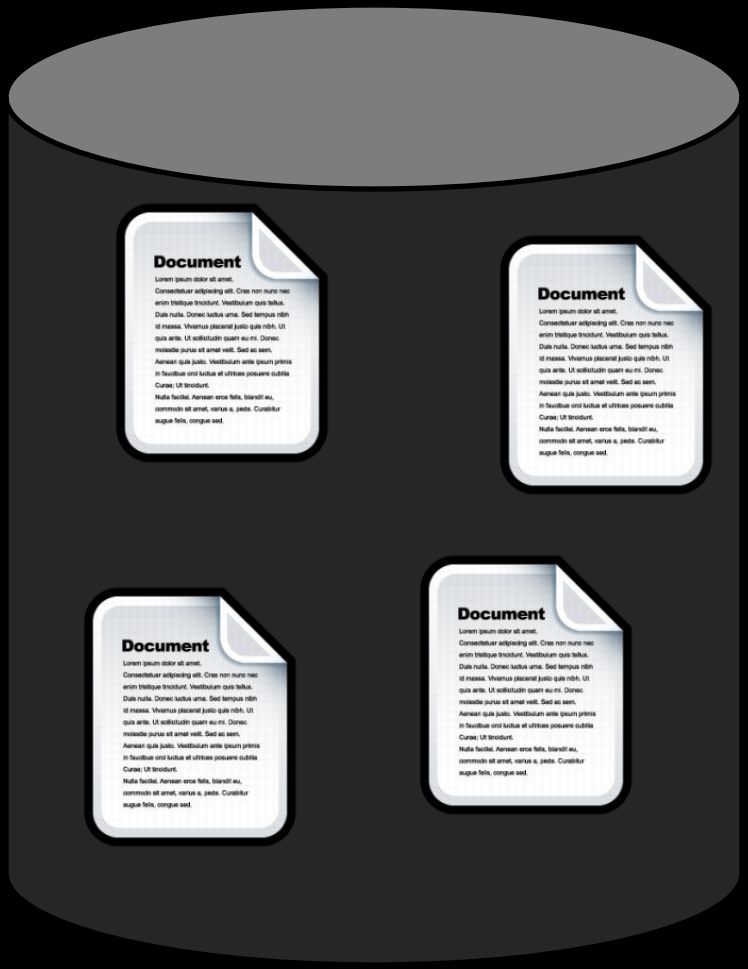
New Models

Paperless



mongoDB

JSON

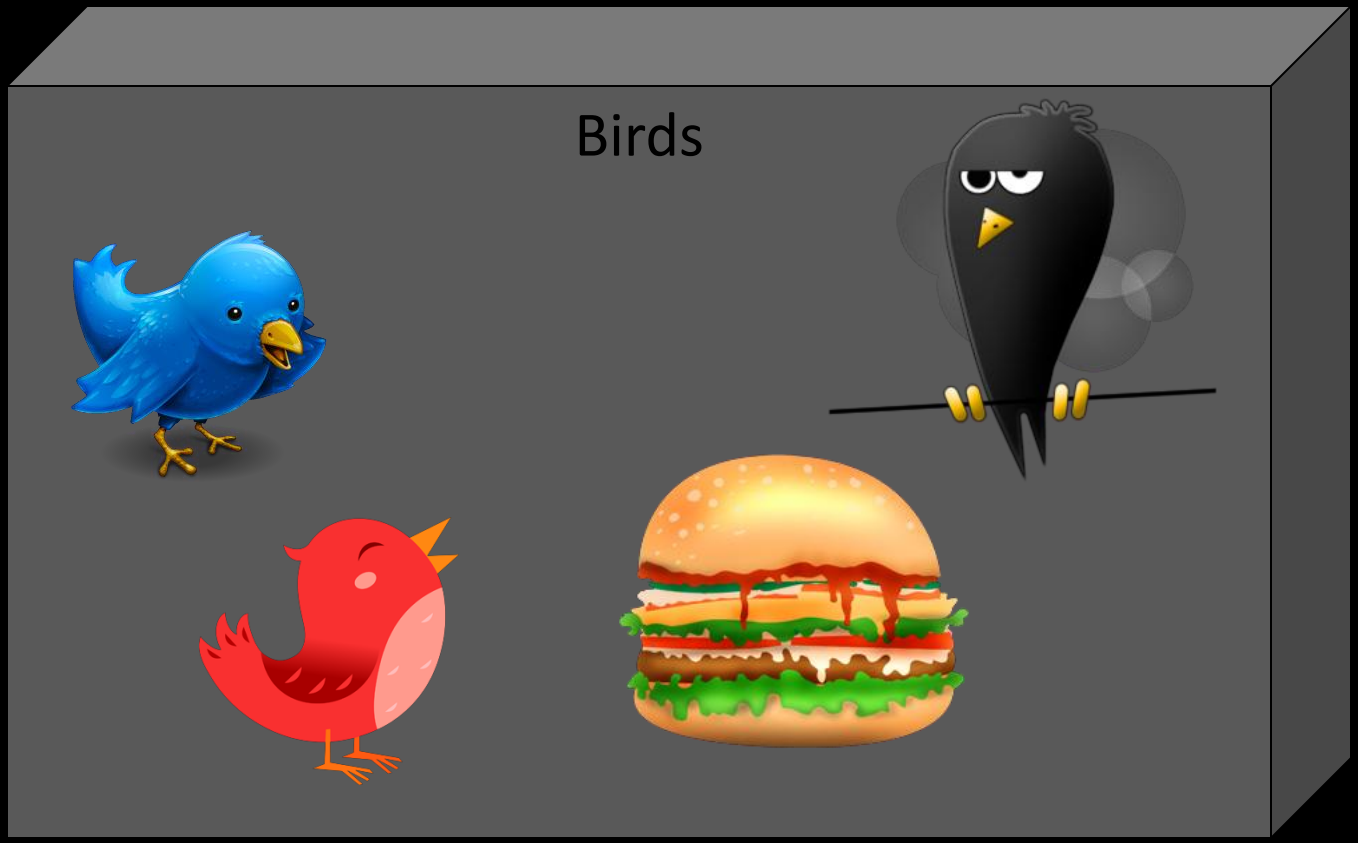



```
{
 first_name: ‘Jon’,

 last_name: ‘Fuller’,

 address: {

  line_1: ‘659 Danforth’,

  line_2: ‘Apt 234’,

  zip: 46032}
}
```

Table:RDBMS::Collection:MongoDB

(sort of)

Collections



Static:Dynamic::RDBMS:MongoDB

(typing)

```
db.papers.save({
  date:’5/22/2010’,
  tags:[‘paystub’],
  views:0,
  original_filename:’paystub.pdf’,
  content: <BINARY>});
```

```
db.papers.save({
  date:’5/22/2010’,
  tags:[‘paystub’],
  views:0,
  original_filename:’paystub.pdf’,
  content: <BINARY>});
```

GridFS

```
db.papers.save({
  date:’5/22/2010’,
  tags:[],
  views:0,
  original_filename:’paystub.pdf’,
  grid_fs_name: <SHA1 of file>});
```

Query

```
db.papers.find();
```

Query

```
db.papers.find();

db.papers.find({date:’5/22/2010’});
```

Query

```
db.papers.find();

db.papers.find({date:’5/22/2010’});

db.papers.find({tags:’paystub’});
```

Index

```
db.papers.ensureIndex({tags:1});

db.papers.find({tags:’paystub’});
```

Query

```
db.papers.find(
  {tags: {$all:[‘paystub’, ‘jon’]}});
```

Query

```
db.papers.find(
  {tags: {$all:[‘paystub’, ‘jon’]}});

db.papers.find(
  {tags: {$in:[‘paystub’, ‘jon’]}});
```

Update

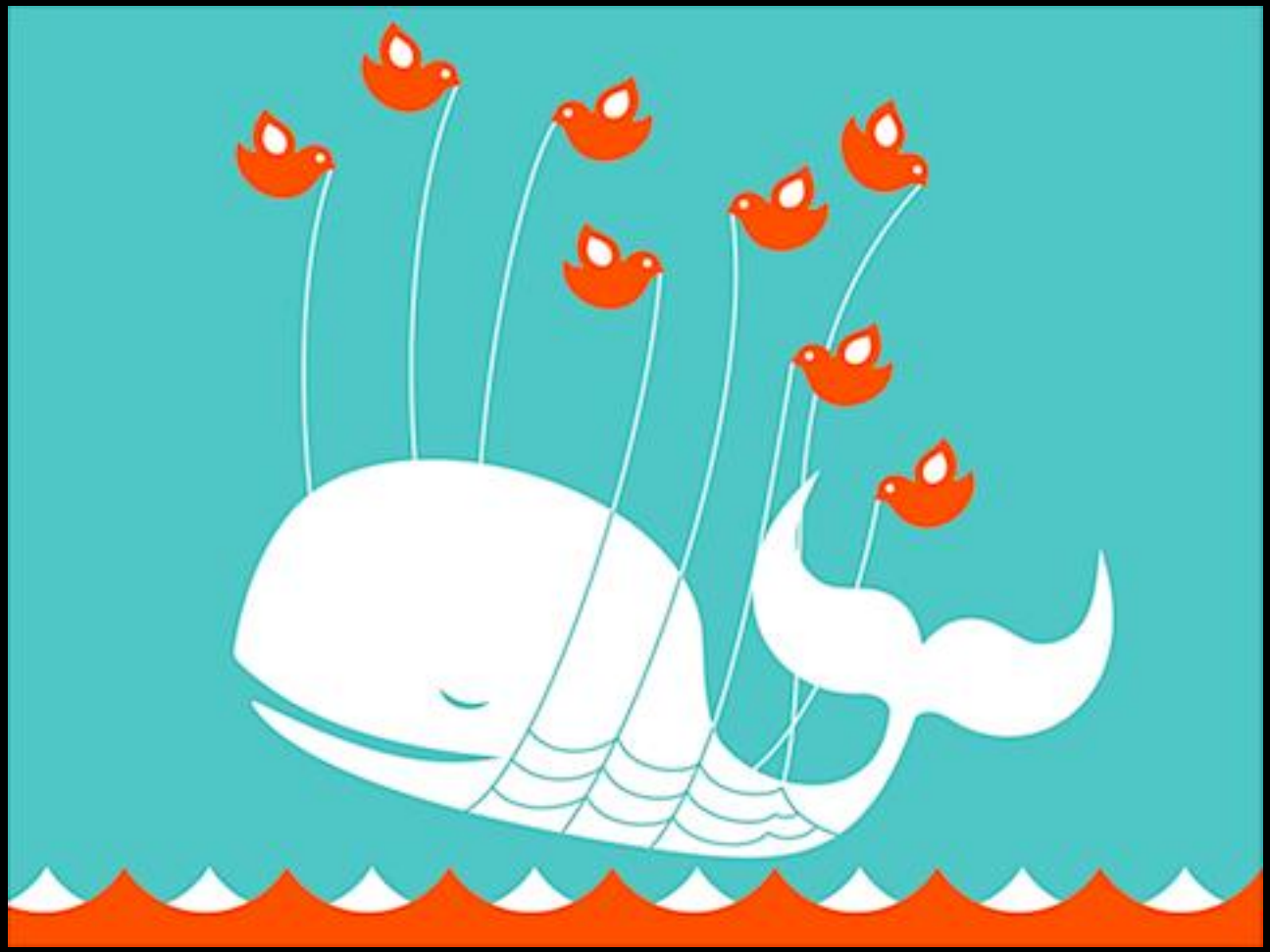
```
db.papers.update(
  {_id:<ID>, {$inc: {views:1}}});
```

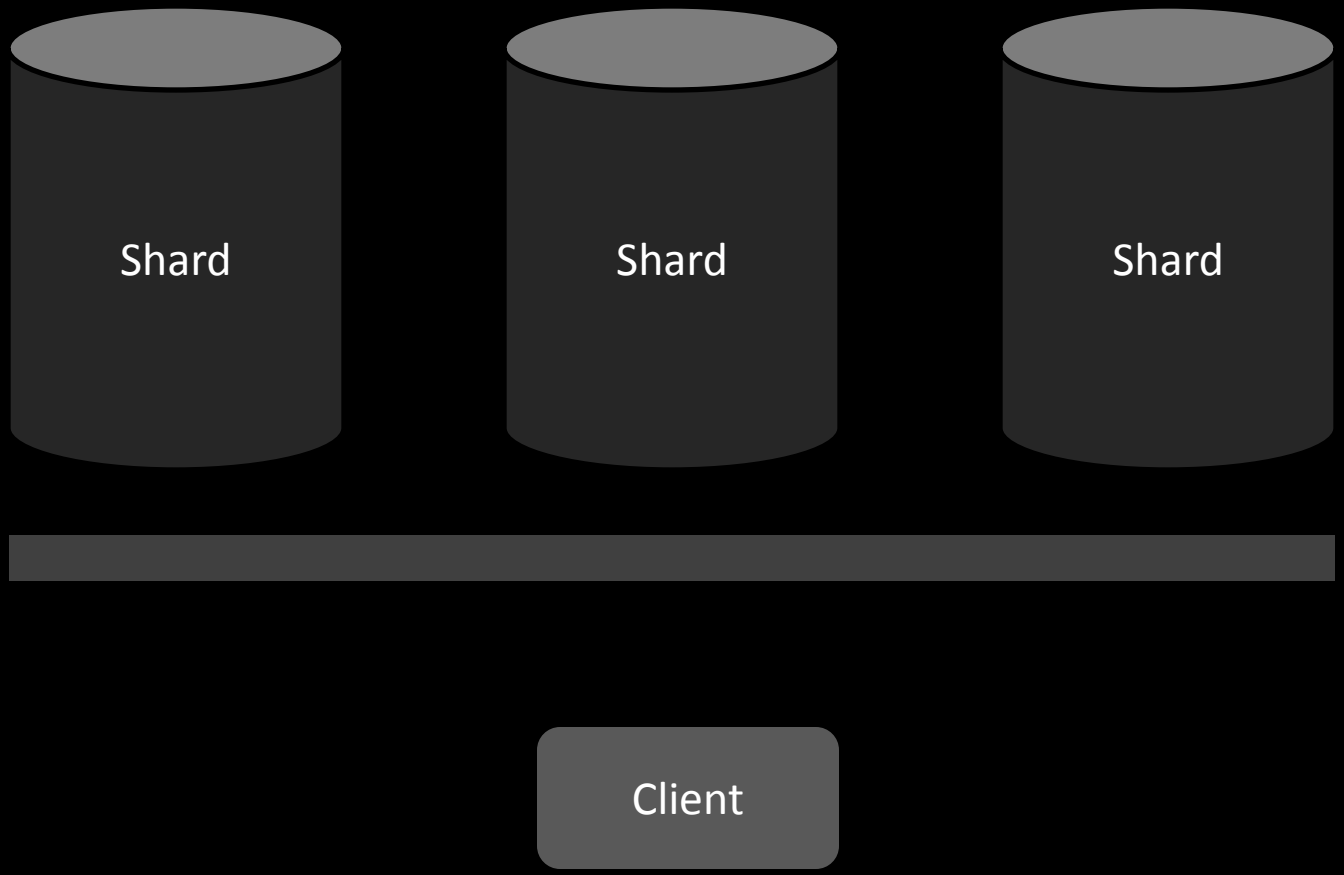
Update

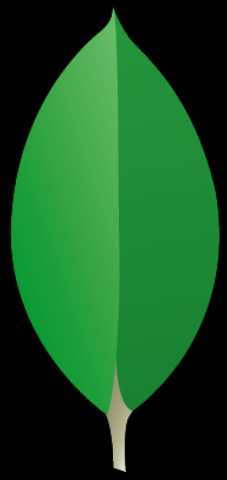
```
db.papers.update(
  {_id:<ID>, {$push: {tags:’jon’}}});
```

Update

```
db.papers.update(
  {_id:<ID>, {$pull: {tags:’paystub’}}});
```

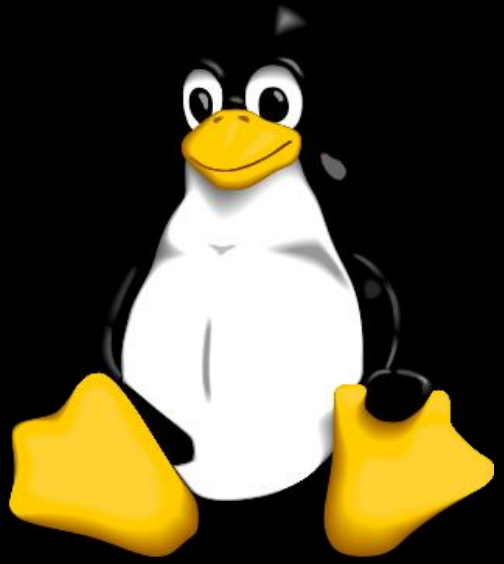



Shard
Shard
Shard
Client



mongoDB

Available Platforms



Map/Reduce

```
function(){
  this.tags.forEach(
    function(tag){
      emit(tag, {count: 1}); })
}

function(key, values){
  var total = 0;
  for ( var i=0; i<values.length; i++ ) {
    total += values[i].count;
  }
  return {count: total};
}
```

C#

- NoRM
  - http://github.com/atheken/NoRM/
- mongodb-csharp
  - http://github.com/samus/mongodb-csharp

mongodb.org

try.mongodb.org

github.com/jonfuller/paperless

github.com/jonfuller/presentations

Comments/Questions/Feedback

(please!!)