schema is **well-defined**

unexpected problems

- Hard to query **complex**

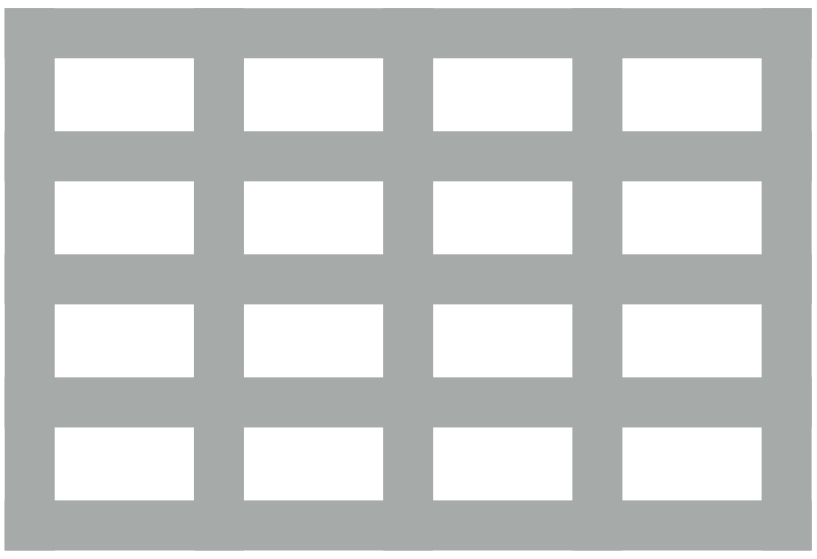
relationships

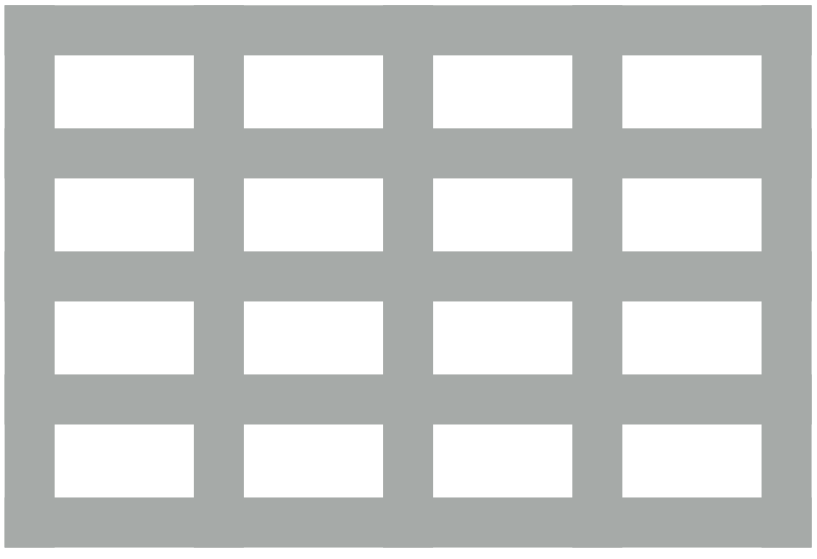
✓ Clear and easy to track when

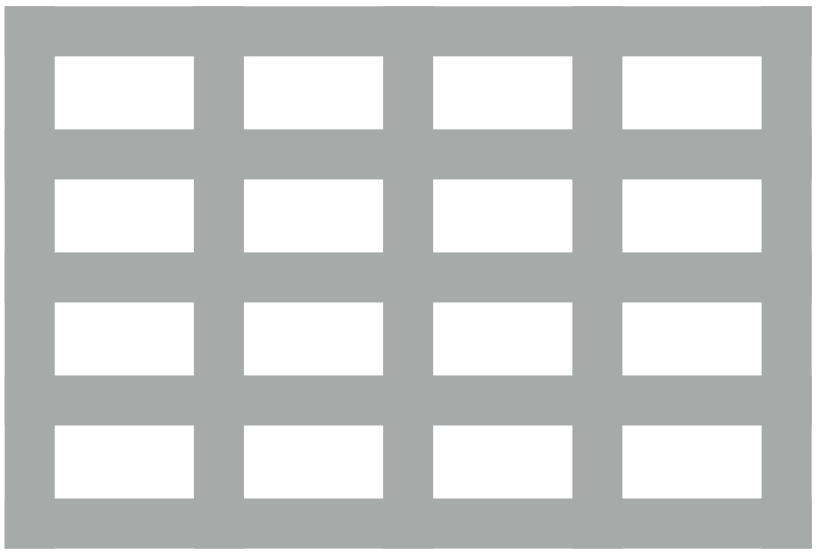
- Getting rigid when dealing with

30

Data Model	Structured	Unstructured	Structured, semi-structured, or unstructured
Query Language	SQL	No fixed query language	Gremlin, Cypher, Graph Query Language (GQL), SPARQL Protocol and RDF Query Language (SPARQL), and PostgreSQL (PGQL)
Scalability	Vertical	Horizontal	Horizontal / vertical
Data Storage	Fixed rows and columns	Documents	Nodes and relationships
Schema	Pre-defined	Dynamic	None
Hierarchical Data Storage	Not suitable	Suitable	Not suitable
Use Cases	Atomicity, consistency, isolation, durability (ACID) compliance, data warehouse, online analytical processing (OLAP), online transaction processing (OLTP), and structured data analysis	Content management, real-time big data, and user profiles	Fraud detection, social networking, and recommendation engines







```
name: “GN Colors”,
```

```
key: “colors-gn”,
```

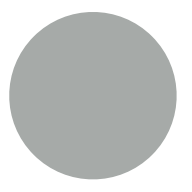
```
colors: [
```

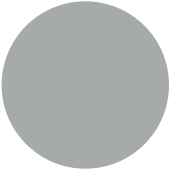
name: “Fluorescent Green”

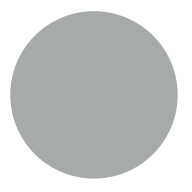
```
type: “colors”,
```

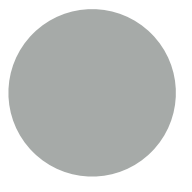
key: “26EE2C”,

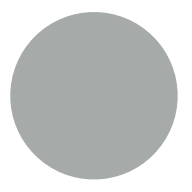
```
type: “color”,
```

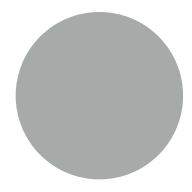


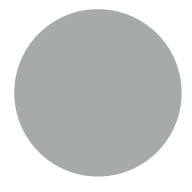


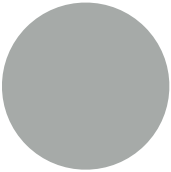


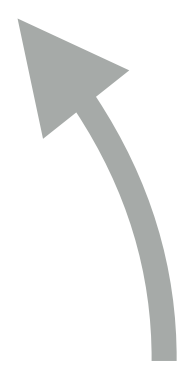


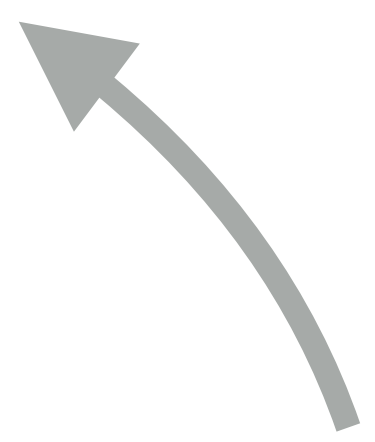


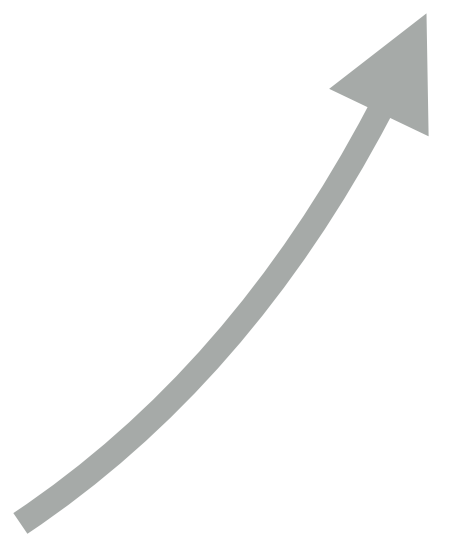


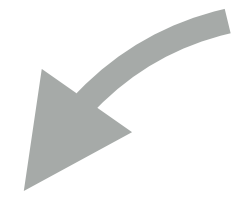












✓ Easy to adjust schema &

hierarchy to deal with

continuously changing problems

✓ Optimized for answering

(graph traversal algorithms)

questions regarding relationships

Comparison

Database Models

Source: https://www.g2.com/articles/document-databases

Comparison