A popular, open-source document database

- A Collection is made up of JSON-like Documents
- JSON structure maps well to native objects in most programming languages
- Schema design decision: Embed data or Reference documents

Use Cases

- Storing unstructured or semi-structured data
- Rapid development (do not need to define schema upfront)

FEATURES

- Prefers **Consistency** over Availability
- **Documents are self-contained** --> data that is accessed together is stored together (no joins required)
- **Flexible schema** that can evolve over time as application changes
- Built for **scaling horizontally**
- Big community base and API is well-documented
- DaaS offerings available (MongoDB Atlas)

LIMITATIONS

- JOINs across documents are tedious
- Does not support transaction
- Duplications in data/high memory usage
- Large documents create query overhead (16 MB limit)

General Rules for Schema Design

- **Rule 1**: Favor embedding unless there is a compelling reason not to.
- **Rule 2**: Needing to access an object on its own is a compelling reason not to embed it.
- **Rule 3**: Avoid joins and lookups if possible, but don't be afraid if they can provide a better schema design.
- **Rule 4**: Arrays should not grow without bound. If there are more than a couple of hundred documents on the *many* side, don't embed them; if there are more than a few thousand documents on the *many* side, don't use an array of ObjectID references. High-cardinality arrays are a compelling reason not to embed.
- **Rule 5**: As always, with MongoDB, how you model your data depends **entirely** on your particular application's data access patterns. You want to structure your data to match the ways that your application queries and updates it.
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- **One-to-One** - Prefer key value pairs within the document
- **One-to-Few** - Prefer embedding
- **One-to-Many** - Prefer embedding
- **One-to-Squillions** - Prefer Referencing
- **Many-to-Many** - Prefer Referencing

Source:
https://www.mongodb.com/developer/products/mongodb/mongodb-schema-design-best-practices/