According to our book, an index from a database Is very close to the index we can find in a book. (Bradshaw & Chodorow, 2019). Which is organized in alphabetical order with a list of the topics in the book. It essentially looks like an ordered list but shortens it with “references to the content.” (Bradshaw & Chodorow, 2019). Which is faster to find the data within MongoDB.

“The purpose of an index is to make your queries as efficient as possible.” (Bradshaw & Chodorow, 2019) A simple way to create is an index with createIndex. For example,

db.users.createIndex({“age” : 1, “username” : 1})

A term for this is called compound index which is helpful if queries have more than one key (Bradshaw & Chodorow, 2019). However there are a few ways to create an index.

db.users.find({“age” : 21}).sort({“username” : -1}) which is called an equality query (Bradshaw & Chodorow, 2019). This will search for single value and is considered to be very efficient CITE BOOK.

db.users.find({“age” : {“$gte” : 21, “$gte” : 30}}) This query is called a range query. CITE BOOK. This query searches for documents that match more than one value. (Bradshaw & Chodorow, 2019)

In our reading the book describes MongoDB looking “at the query’s shape. The shape has to do with what fields are being searched on and additional information.” (Bradshaw & Chodorow, 2019) With that MongoDB takes the information and finds the data it can use.

Index Cardinality is the number of values available for a field inside the collection. (Bradshaw & Chodorow, 2019) Some examples from the book are gender or newsletter opt-out (Bradshaw & Chodorow, 2019).

A capped collection is a database with a fixed sized, the documents aren’t allowed to be deleted, cannot update the document if it increases the size. (Bradshaw & Chodorow, 2019) You should use a capped collection for logging. (Bradshaw & Chodorow, 2019)

A sparse Index will only have the “entries for documents that have the indexed field” It will skip a document that does not have the field that’s being indexed. (*Sparse Indexes — MongoDB Manual*, n.d.-b)

References:

Bradshaw, S., & Chodorow, K. (2019). *MongoDB: Powerful and Scalable Data Storage*. O’Reilly Media.

*Sparse Indexes — MongoDB Manual*. (n.d.-b). MongoDB. Retrieved April 17, 2023, from https://www.mongodb.com/docs/manual/core/index-sparse/