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Computer Science 2nd Year

Subject - 'DBMS'

Introduction to NoSQL Database

A database management system provides the mechanism to store and retrieve the data. There are different kind of database management systems :-

- 1) RDBMS (Relational Database management System)
- 2) OLAP (Online Analytical processing)
- 3) NoSQL (not only SQL)

NoSQL databases were created to overcome the limitation of relational database.

NoSQL database

NoSQL database are different than Relational database like MySQL. In Relational database you need to create the table, define Schema set the data types of fields etc before you can actually insert the data. In NoSQL you don't have to worry about that, you can insert, update, data on the fly.

One of the advantage of NoSQL database is that they are really easy to scale and they are much faster in most type of operation that are perform

On database. There are certain situation where you would prefer relational database over NoSQL, however when you are dealing with huge amount of data then NoSQL database is the best.

Limitation of Relational databases :

- 1) In relational database we need to define structure and schema of data first and then only we can process the data.
- 2) Relational database systems provides Consistency and Integrity of data by enforcing ACID properties (Atomicity, Consistency, Isolation and Durability). There are some scenarios where this is useful like banking system, However in most of the other case these properties are significant performance overhead and can make your database response very slow.
- 3) Most of the applications store their data in JSON format and RDBMS don't provide you a better way of performing operations such as create, insert, update, delete etc on this data. on the other hand NoSQL store their data in JSON format, which is compatible with most of the Today's world application.

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