Michael Stonebraker

- 2014 ACM A.M. Turing Award Winner, the Nobel Prize in CS
- Founder of Ingres and Postgres
- Adjunct Professor at MIT
- Introduced object-oriented database

https://en.wikipedia.org/wiki/Michael_Stonebraker
Object-relational model

- Suitable for complex data structure
- Built the bridge between relational database and object-oriented modeling techniques
- Allow to create, modify objects in relational database
- Allow object-oriented programmers use the same model presentation
- Maintain consistency within one environment
DBMS on OS

“The bottom line is that operating system services in many existing systems are either too slow or inappropriate.”

DOI=http://dx.doi.org/10.1145/358699.358703
DBMS on OS

- Physical Contiguity Storage Prefered
- Consistent Indexing Tree Structured File Systems
- Better buffer management
- Master database that handles all requests
- OS level multitasking or DBMS multitasking tool
- Have buffering, concurrency control, and crash recovery all provided by OS
- Small efficient operating system with only desired services

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Quiz

- Object-oriented model is same to class in object-oriented programming language (T/F)

- One way to improve DBMS performance on OS level is to upgrade hardware, according to Michael Stonebraker’s paper (T/F)

- DBMS prefers Contiguity Storage (T/F)
reference


https://amturing.acm.org/stonebraker_1172121.pdf


https://en.wikipedia.org/wiki/Michael_Stonebraker

https://blog.philipphauer.de/relational-databases-strength-weaknesses-mongodb/

Thank you