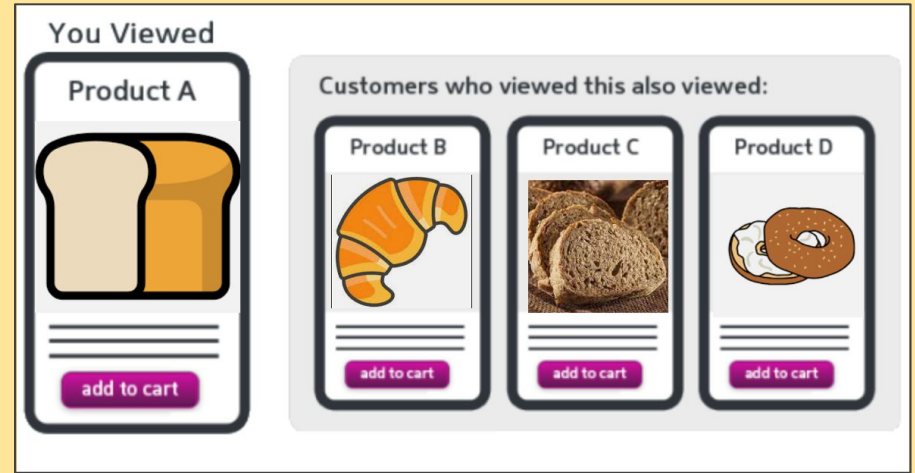


# Next-Gen E-Commerce with NoSQL

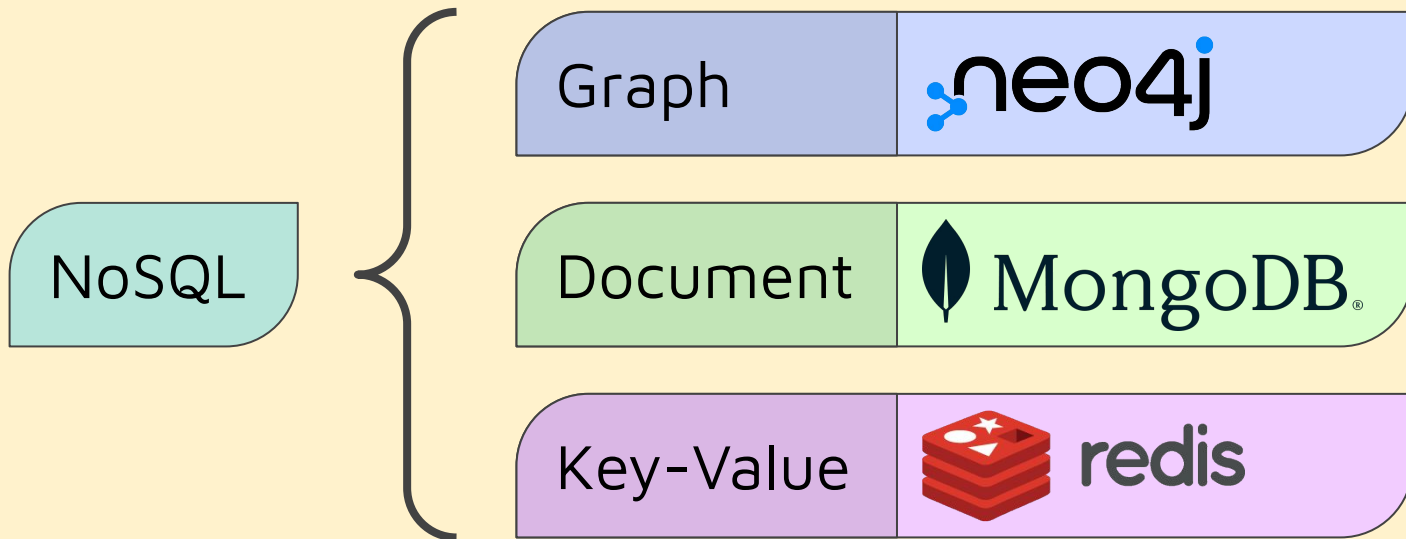
Alexandra Hurst

Angelique Iradukunda

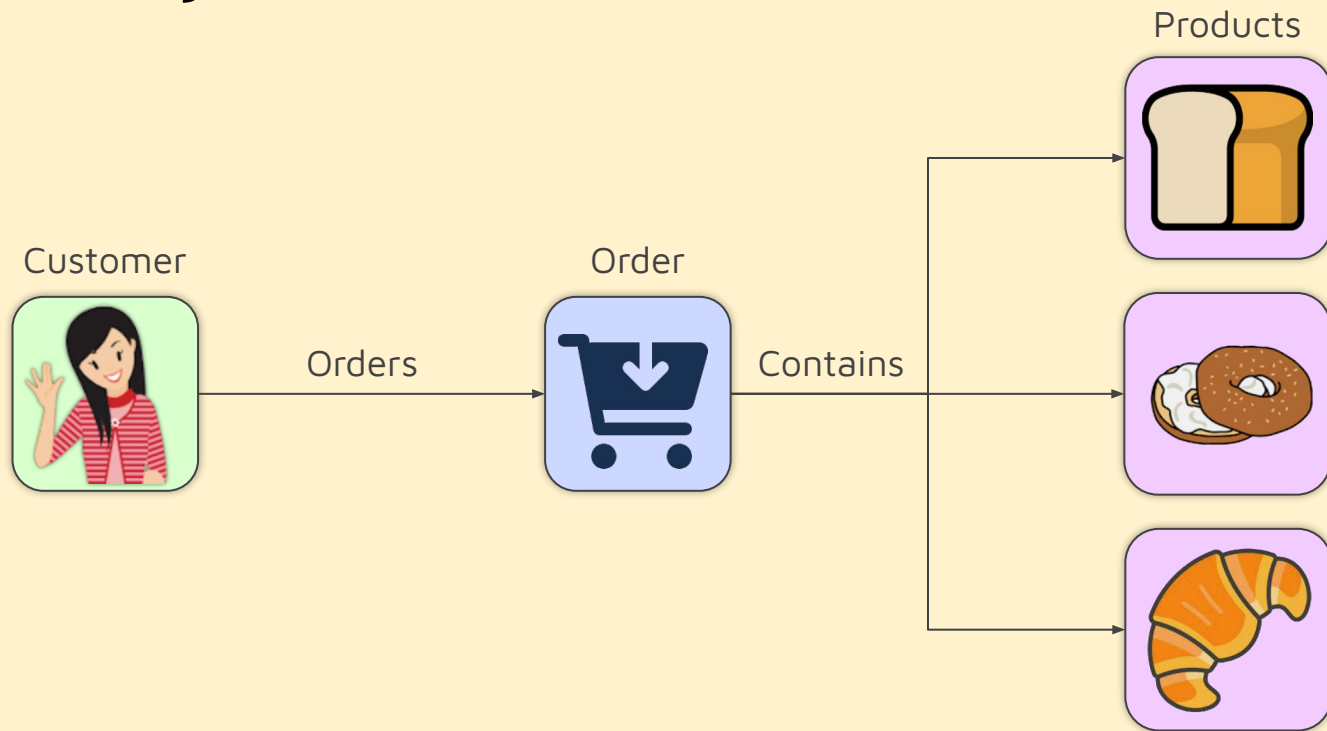
Srila Maiti



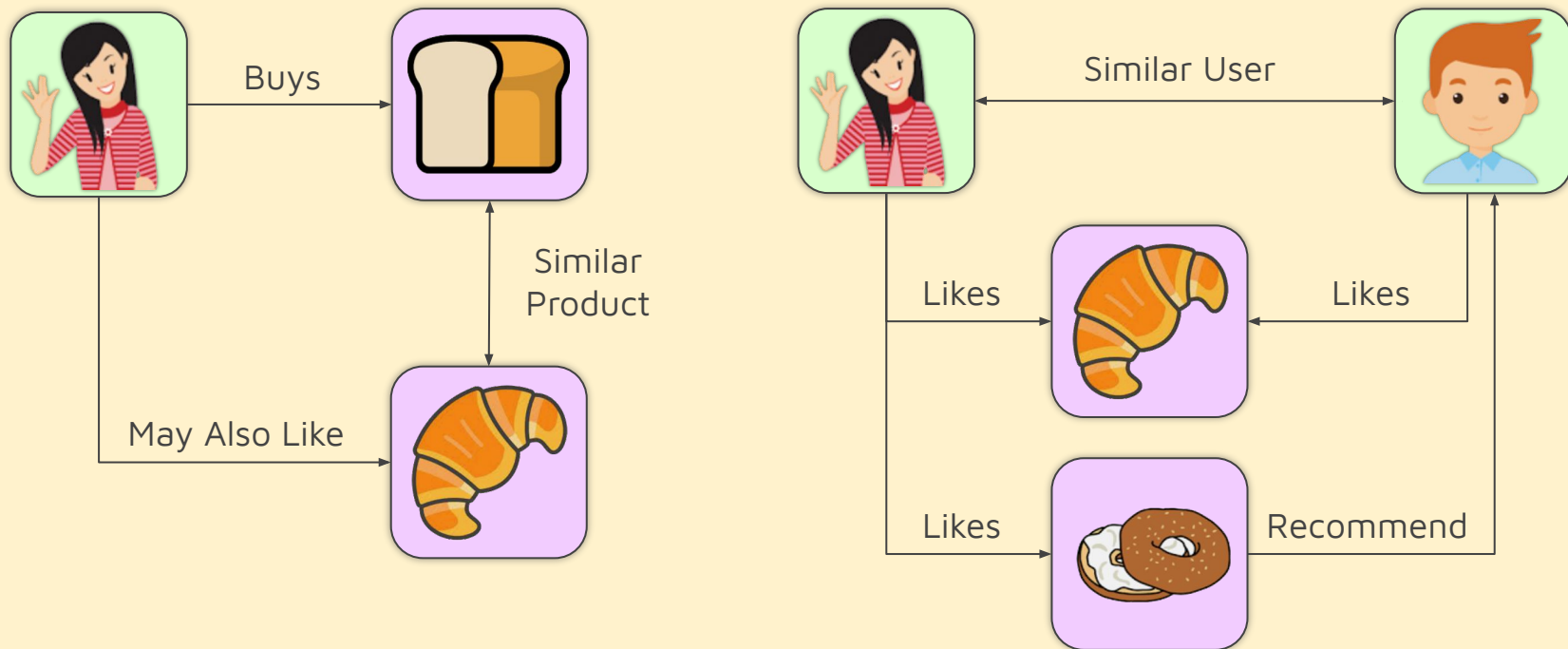
# What is NoSQL?



# Neo4j Overview



# Neo4j Business Case

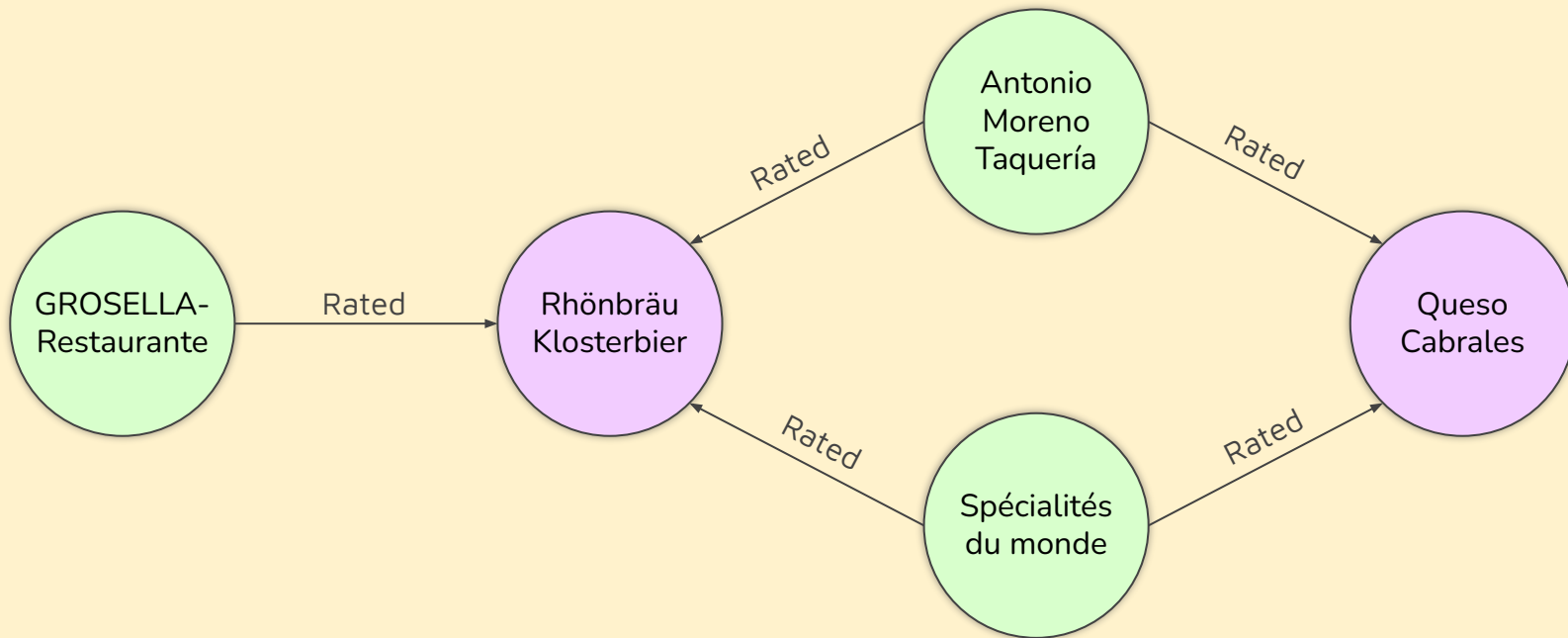




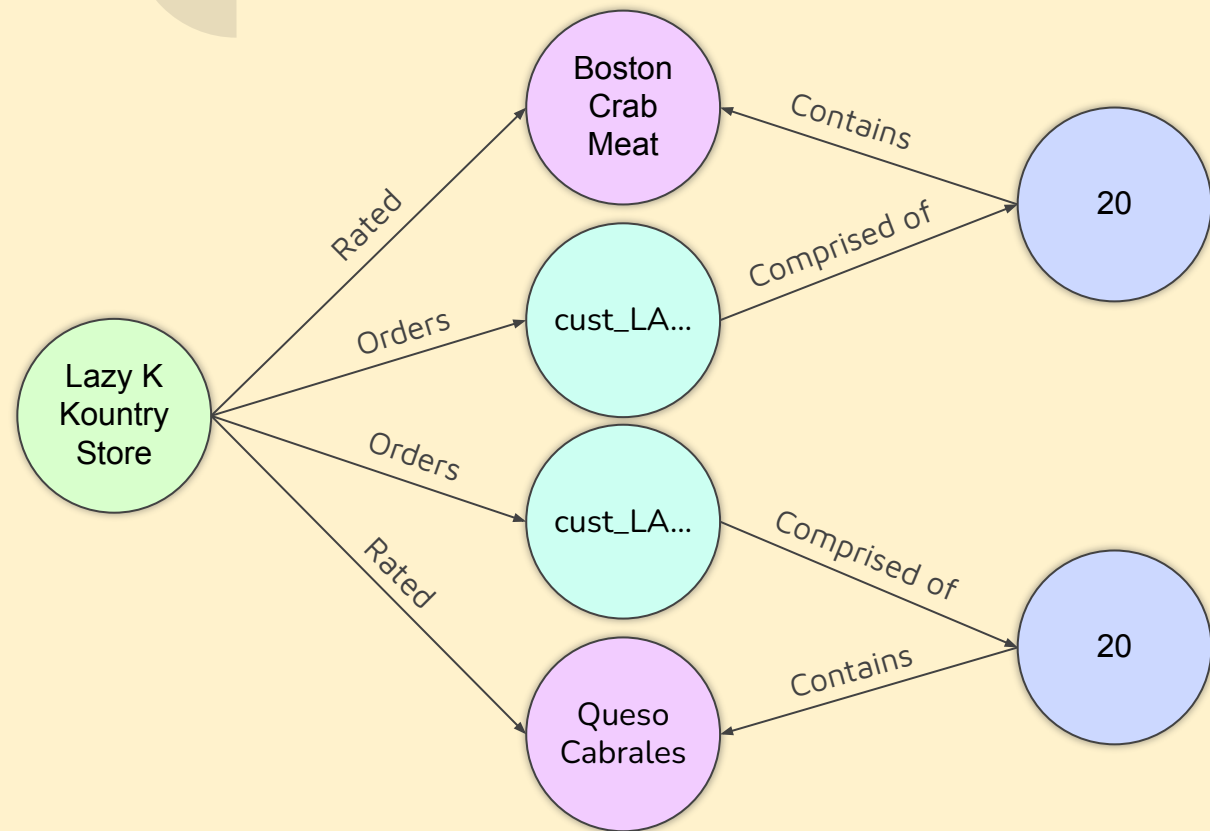
# Neo4j Structure for Our Business Case

1. supplier *supplies* product
2. product *part\_of* category
3. customer *orders* order\_header
4. order\_header *comprised\_of* order\_lines
5. order\_lines *contains* product
6. customer *rated* product
7. product *has\_number\_of* product\_rating
8. product *similar* product

# Neo4j: Collaborative Recommendations

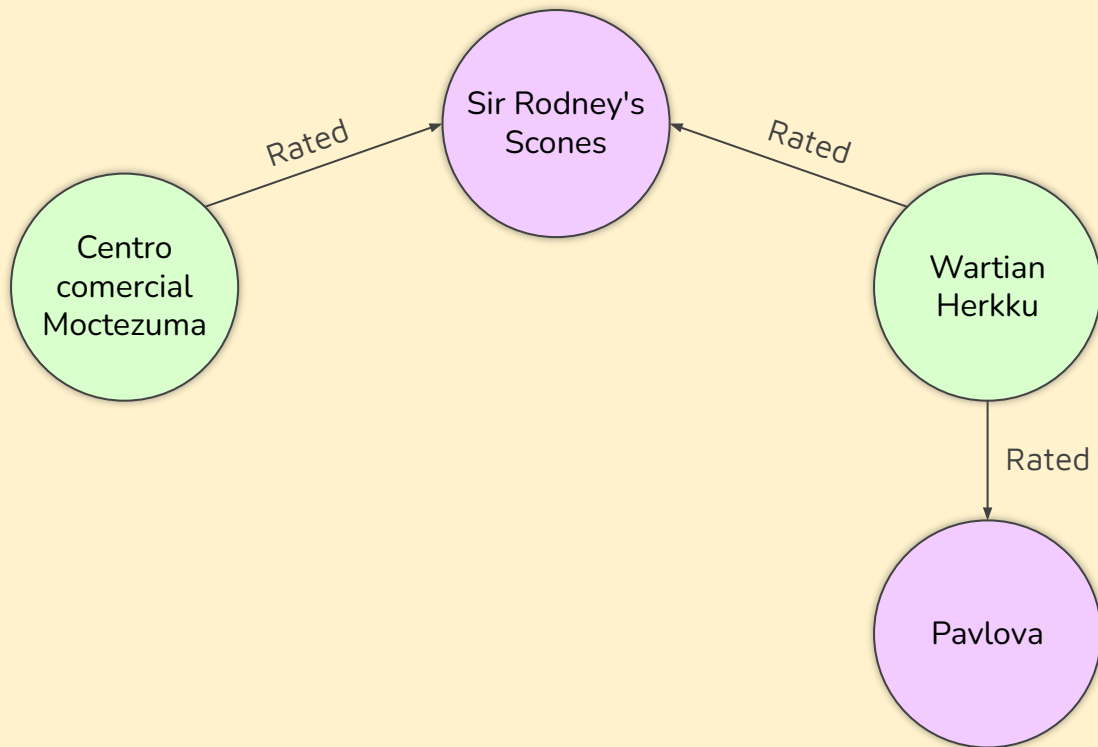


# Neo4j: Content-Based Recommendations



	customer_name	recommended_product
0	Lazy K Kountry Store	Jack's New England Clam Chowder
1	Lazy K Kountry Store	Ikura
2	Lazy K Kountry Store	Inlagd Sill
3	Lazy K Kountry Store	Spegesild
4	Lazy K Kountry Store	Röd Kaviar
5	Lazy K Kountry Store	Nord-Ost Matjeshering
6	Lazy K Kountry Store	Konbu
7	Lazy K Kountry Store	Gravad lax
8	Lazy K Kountry Store	Carnarvon Tigers
9	Lazy K Kountry Store	Escargots de Bourgogne
10	Lazy K Kountry Store	Rogede sild

# Neo4j: Content-Based Recommendations

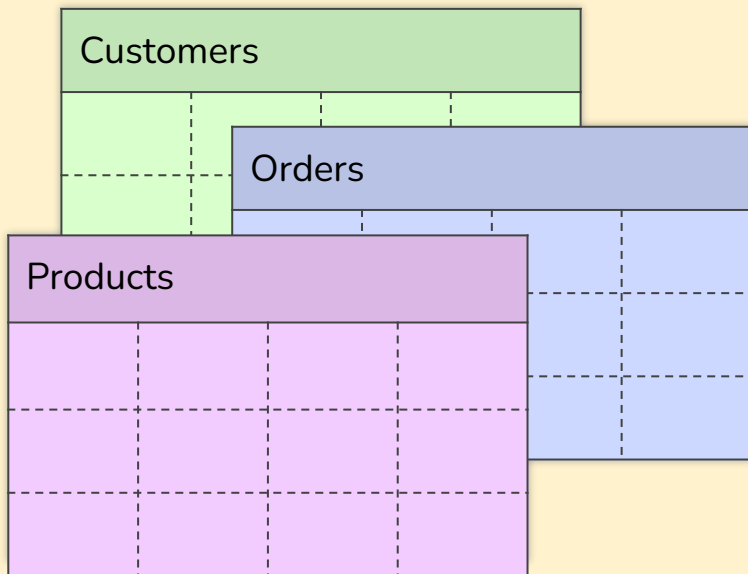




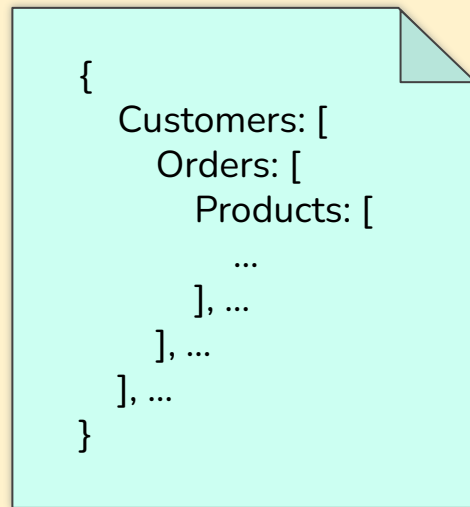


# MongoDB Overview

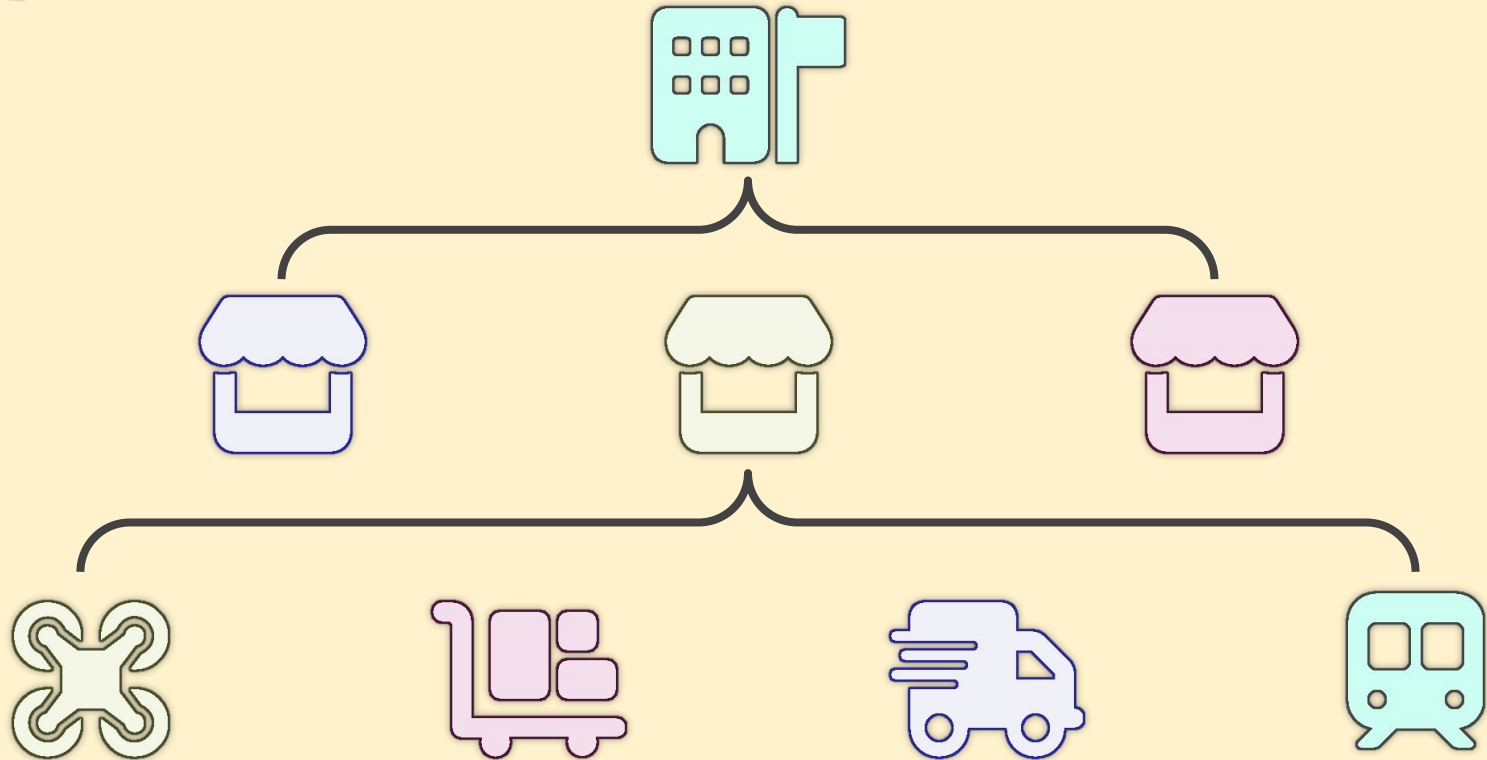
Traditional RDBMS



 MongoDB®



# MongoDB Business Case





# MongoDB Business Case

Customer-Centric

```
{
  Customers: [
    Orders: [
      Products: [
        ...
      ], ...
    ], ...
  ], ...
}
```

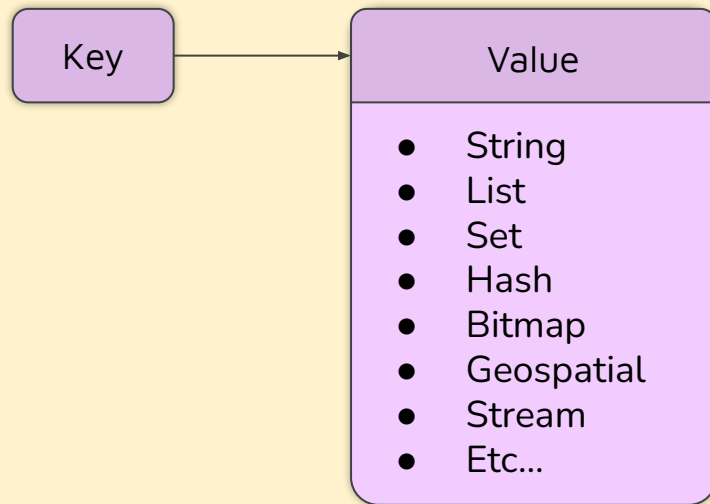
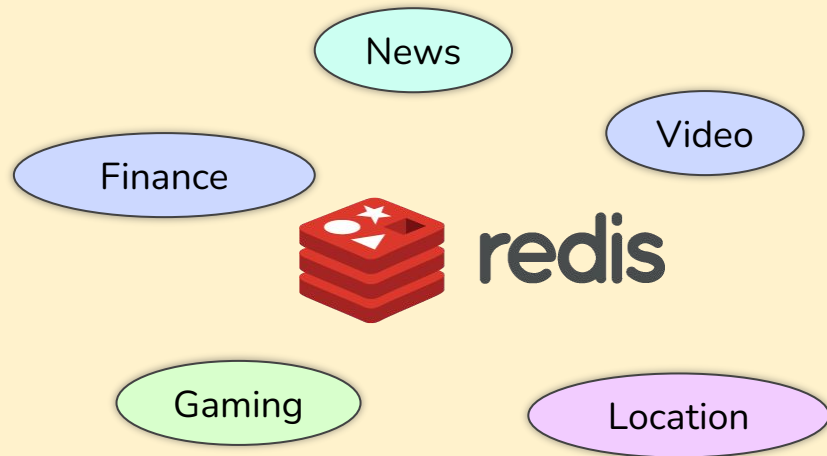
Order-Centric

```
{
  Orders: [
    Customers: [
      ...
    ],
    Products: [
      ...
    ], ...
  ], ...
}
```

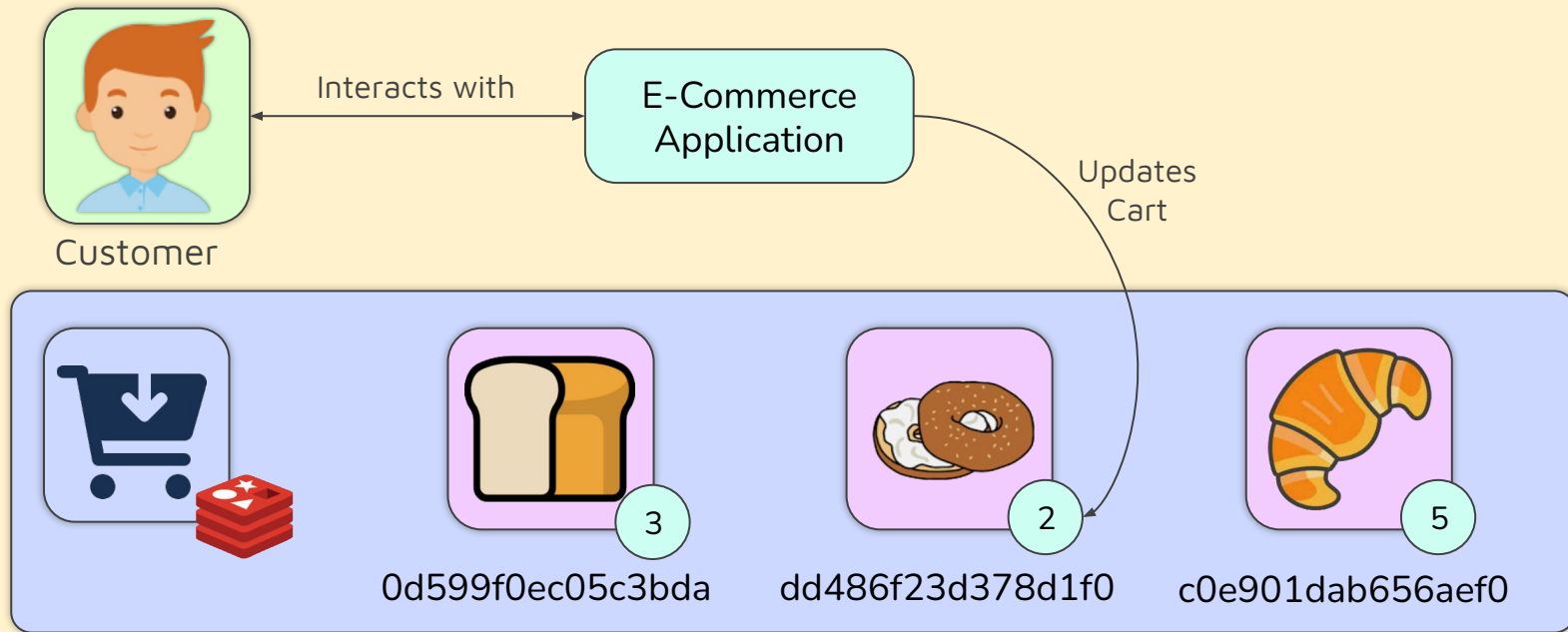
Product-Centric

```
{
  Products: [
    Orders: [
      Customers: [
        ...
      ], ...
    ], ...
  ], ...
}
```

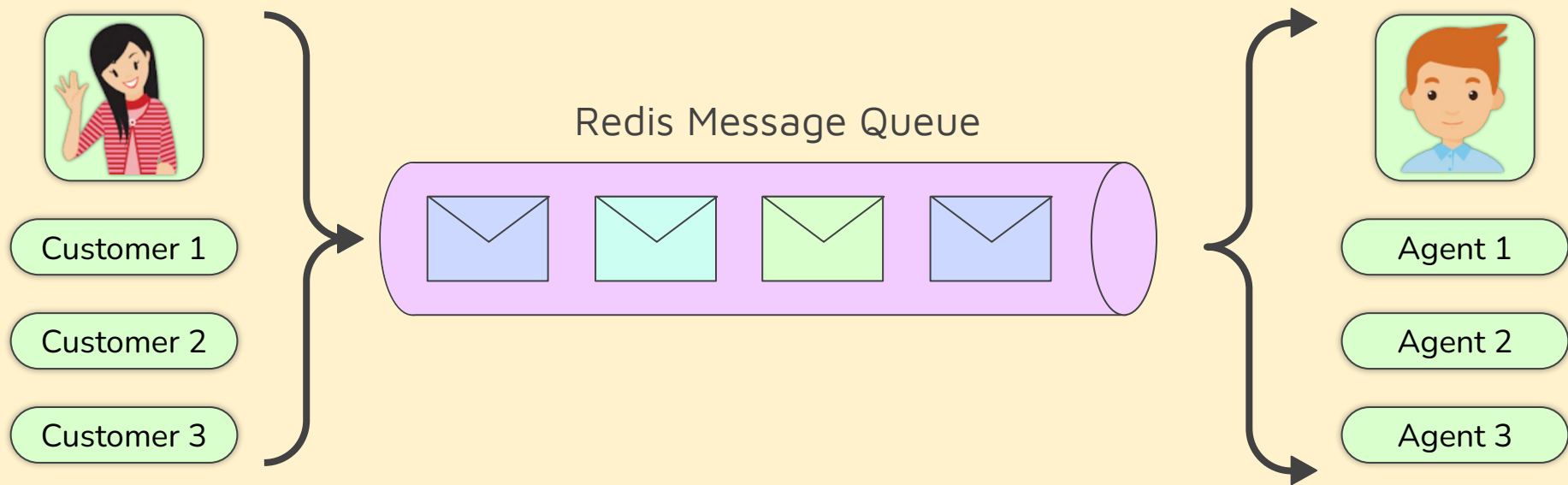
# Redis Overview



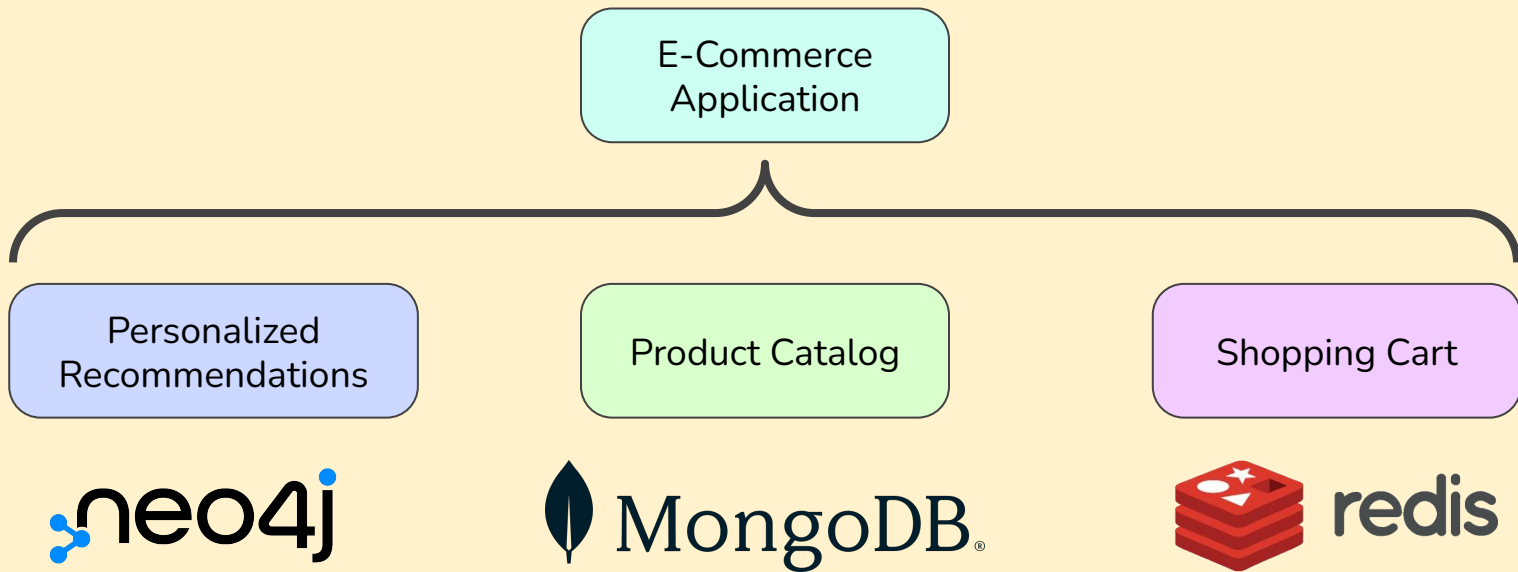
# Redis Business Case



# Redis Business Case



# Conclusion and Recommendations





# References

## Neo4j

- <https://neo4j.com/product/>
- <https://neo4j.com/use-cases/real-time-recommendation-engine/>
- <https://phoenixnap.com/kb/graph-database>

## MongoDB

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- <https://www.mongodb.com/use-cases/personalization>
- <https://www.mongodb.com/docs/manual/sharding/>

## Redis

- <https://redis.io/docs/about/>
- <https://livebook.manning.com/book/redis-in-action/chapter-2/8>
- <https://loopback.io/doc/en/lb4/Inside-LoopBack-Application.html>
- <https://hevodata.com/learn/redis-message-queue/>

## Images

- <https://fontawesome.com/>
- <https://neo4j.com/brand/>
- <https://www.mongodb.com/brand-resources>
- <https://redis.com/brand-guidelines/>