## 🏦📱 Social Media – NoSQL Use Cases

- **User Profile Management**
  - Stores diverse user data (bios, preferences, privacy settings).
  - Document stores (e.g., MongoDB) handle unstructured or semi-structured data easily.

- **News Feed / Timeline Delivery**
  - Delivers millions of real-time updates to users.
  - Wide-column stores (e.g., Cassandra) manage high write throughput and time-based queries.

- **Messaging & Real-Time Chat**
  - Handles one-to-one and group conversations with rapid delivery.
  - Uses DynamoDB, Redis, or Couchbase for fast access and flexible schemas.

- **User Relationship Graphs**
  - Models and queries followers, friends, and group memberships.
  - Graph databases (e.g., Neo4j) efficiently manage complex social relationships.

- **Media Metadata Storage**
  - Tracks interactions like likes, shares, views, and comments.
  - Document databases store flexible, varied content metadata (e.g., MongoDB).

## 🎓 Education – NoSQL Use Cases

- **Student Profiles & Learning History**
  - Stores academic records, learning paths, and behavioral data.
  - Document stores (e.g., MongoDB) support flexible and individualized data structures.

- **Course Content Management**
  - Manages lesson plans, videos, quizzes, and adaptive modules.
  - NoSQL enables dynamic content storage and versioning.

- **Adaptive Learning & Personalization**
  - Customizes learning paths based on student behavior and performance.
  - Uses key-value stores or graph databases to deliver real-time recommendations.

- **Learning Analytics**
  - Tracks engagement, performance trends, and progress over time.

    - Time-series databases (e.g., InfluxDB) and wide-column stores (e.g., Cassandra) handle event-driven data.

- **Chatbots & Virtual Assistance**
    - Stores FAQs, conversation flows, and real-time support interactions.
    - Firebase and similar NoSQL solutions support fast, dynamic access.

## Retail – NoSQL Use Cases

- **Product Catalog Management**
    - Handles large, diverse product data with varying attributes (e.g., electronics vs. clothing).
    - Document databases (MongoDB, Couchbase) enable flexible schemas for different product types.

- **Customer Profiles & Behavior Tracking**
    - Stores customer preferences, purchase history, and browsing data.
    - NoSQL supports evolving data and fast read/write cycles.

- **Real-time Inventory Management**
    - Tracks stock levels across multiple stores and warehouses in real time.
    - Key-value and wide-column stores (Redis, Cassandra) provide low latency and high throughput.

- **Recommendation Engines**
    - Delivers personalized product suggestions based on browsing and purchase patterns.
    - Graph databases (Neo4j) or document DBs help model relationships and preferences.

- **Shopping Cart & Session Storage**
    - Stores user sessions and shopping carts dynamically.
    - Key-value stores (Redis, DynamoDB) offer fast, scalable storage.

- **Order Tracking & Delivery Logistics**
    - Manages real-time order status updates and delivery tracking.
    - Time-series or document databases help with continuous data streams.

## 🏦 Banking – NoSQL Use Cases

- **Customer 360-Degree View**
  - Integrates data from accounts, credit cards, loans, mobile apps, and support tickets.
  - Document databases (MongoDB) manage diverse customer information flexibly.

- **Fraud Detection & Risk Analysis**
  - Processes millions of transactions rapidly to detect suspicious patterns. Wide-column stores (Cassandra) or key-value stores (Redis) handle high-volume writes and fast lookups.

- **Real-time Transaction Monitoring**
  - Enables instant tracking and alerting for transactions and payments.
  - NoSQL databases support low-latency, high-frequency data ingestion.

- **Personalized Financial Product Recommendations**
  - Suggests loans, credit cards, or investment products tailored to customer profiles.
  - Graph databases (Neo4j) analyze customer-product interactions and relationships.

- **Mobile Banking Backend Support**
  - Manages session states, notifications, and user preferences.
  - Key-value and document stores (Couchbase, DynamoDB) provide scalability and speed.

- **Chatbot & Customer Support Logs**
  - Stores dynamic chat conversations and support queries.
  - Real-time document stores (Firebase) enable flexible and scalable storage.