CS544 EA
Applications

Concurrency

Concurrency

- Concurrent means '**at the same time**'
    - Enterprise Apps need have many users (same time)
    - Concurrency problems center around Shared data
    - Data (state) only gets stored in DB
        - @Controller, @Service, and @Repository are stateless

Transactions

- The DB manages concurrency with Transactions

- A Transactions is a **unit of work** that is:
    - **ATOMIC**: The transaction is considered a single unit, either the entire transaction completes, or the entire transaction fails.
    - **CONSISTENT**: A transaction transforms the database from one consistent state to another consistent state
    - **ISOLATED**: Data inside a transaction can not be changed by another concurrent processes until the transaction has been committed
    - **DURABLE**: Once committed, the changes made by a transaction are persistent