ARCHITECTURE PATTERNS: A QUICK GUIDE

1. Multi-Layered Architecture

- **Structure:** Divides app into layers
- (Presentation, Business Logic, Data Access).
- **Advantages:**
  -Clear separation of concerns.
  -Easier to maintain.
- **Challenges:**
  - Can increase complexity.

2. Repository Pattern

- **Purpose:** Simplifies data access by abstracting it.
- **Advantages:**
  - Streamlines testing.
  - Promotes modularity.
- **Challenges:**
  - Risk of bloated logic.

3. Client-Server Architecture

- **Concept**: Clients interact with a centralized server for services.
- **Advantages:**
  - ○ Centralized resource management.
  - ○ Scalable design.
- **Challenges:**
  - ○ Server can be a performance bottleneck.

Pipe-And-Filter Architecture

- **Flow:** Data is processed through independent filters connected by pipes.
- **Advantages:**
  - Highly modular.
  -Components are reusable.
- **Challenges:**

-Potential performance issues with data passing.