Architecture Characteristics

Performance

How efficiently a software can accomplish its tasks

Responsiveness

Response time after a request

Availability

Uptime of a system ex: %99.5

Fault Tolerance

When errors occur, other parts of the system continue to function

Scalability

It is the ability to add, remove, or reconfigure hardware and software resources to handle an increase or decrease in usage.

Elasticity

It is automatically scaling up or down resources to meet user demands.

Data Integrity

It is the assurance that digital information is uncorrupted and can only be accessed or modified by those authorized to do so

Data Consistency

Data consistency is the accuracy, completeness, and correctness of data, stored in a database.

Adaptability

The ability of a computer system to adapt itself efficiently and fast to changed circumstances

Concurrency

It is the execution of multiple instruction sequences at the same time.

Interoperability

The functionality of different programs (Communicate) to exchange information, share files, and use the same protocols.

Extensibility

The quality of being designed to allow the addition of new capabilities or functionality.

Deployability

The deployability of a software system can be taken from development to production. It can be measured in terms of man-hours, or the number of disparate steps.

Testability

It refers to the degree to which any module, requirements, subsystem, or other component of your architecture can be verified as satisfactory or not.

Abstraction

Used to hide implementation details from users. They only see the required information.

Workflow

A series of activities or tasks that must be completed sequentially or parallel to achieve a business outcome.

Configurability

The system must be capable of being configured

Recoverability

Defines how well an application can recover from crashes

Feasibility (implicit)

How much beneficial software development will be for the organization

Security

Protecting sensitive data

Maintainability

The ease with which a software system or component can be modified to correct faults, improve performance or other attributes, or adapt to a changed environment

Observability

The ability to measure a system's current state based on the data it generates, such as logs, metrics, and traces.