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Assignment -10

To apply design principles with relevant architectural style & structure the solution accordingly.

An architectural style is a set of principles. It is a coarse-grained pattern that provides an abstract Framework For a Family of system. An architectural style improves partitioning & promotes design reuse by providing solutions to Frequently recurring problem.

Named collection: An architectural style is a named collection OF architectural design decision that are applicable in a given development context, constrain architectural design decision that are applicable in given context, elicit beneficial qualities in each resulting system.

Recurring organizational patterns & idioms Established, shared understanding of common design Forms.

Abstraction : Abstraction of recurring composition & interaction characteristic in a set of architecture.
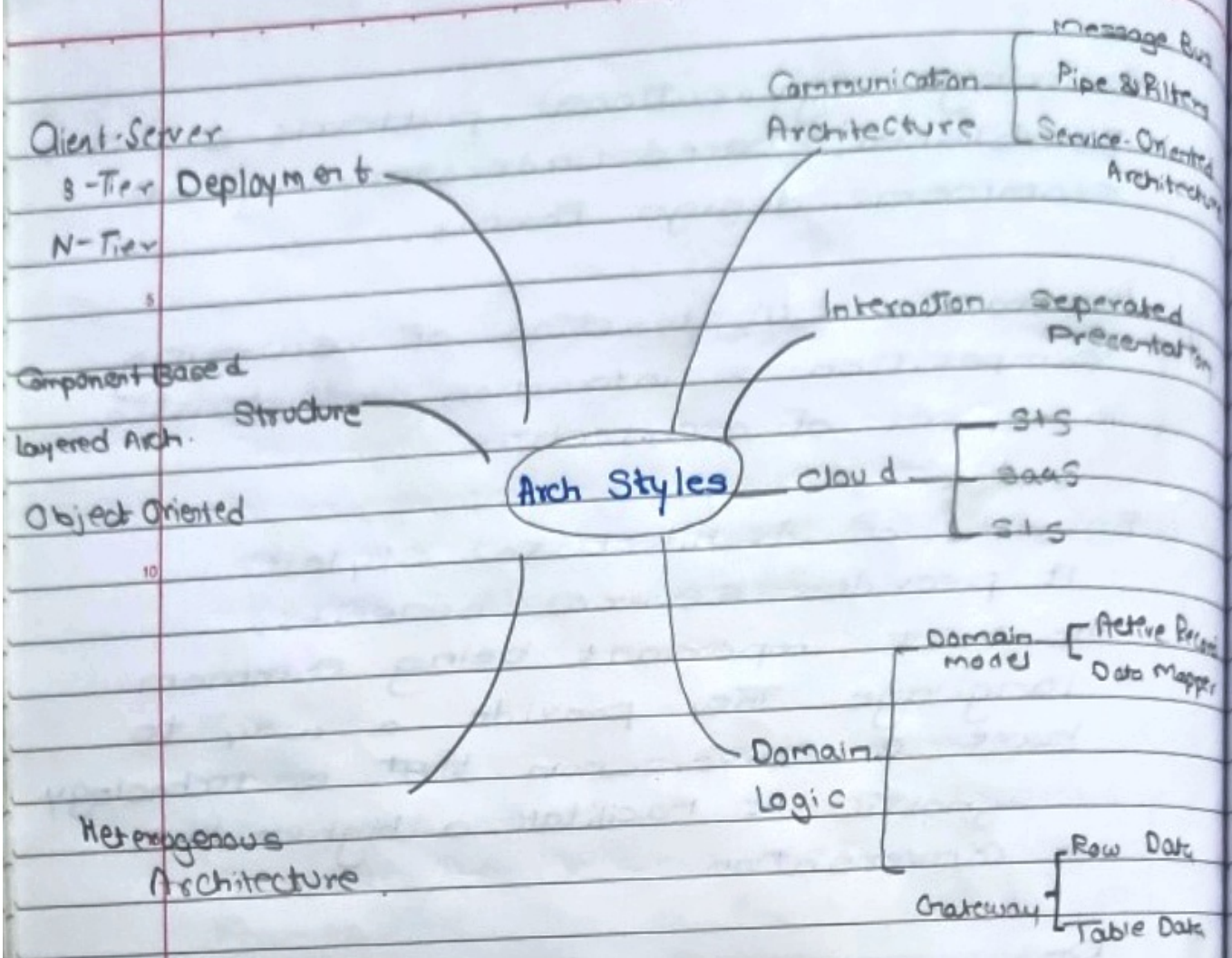
Benefits of Architectural style :
   It provides several benefits, the most important being common language. They provide a way to have a conversation that is technology - agnostic. It Facilitate a higher level of conversation

Design reuse : Well understood solution applied to new problems.
Code reuse : shared implementation of invariant aspects of a style.
Interoperability : supported by style standardization.
style Specific Analysis : Enabled by the constrained design space.

Client-Server

3-Tier Deployment

N-Tier

Component Based

Layered Arch. — Structure

Object Oriented

Communication Architecture
- Message Bus
- Pipe & Filters
- Service-Oriented Architecture

Interaction — Separated Presentation

Arch Styles

Cloud
- S+S
- SaaS
- S+S

Domain model
- Active Record
- Data Mapper

Domain Logic

Gateway
- Row Data
- Table Data

Heterogenous Architecture

Architectural style, also called as architectural pattern, is a set of principles which shapes an application. It defines an abstract Framework for a Family of system in terms of the pattern or structural organization.

The architectural style is responsible to

· Provide lexicon of components & Connector with rules on how they can be Combined

- Improve partitioning & allow the reuse of desiging by giving solutions.

The software that is built for computer based system exhibit one or many architectural style.

Types of Architecture.

There are four types of architecture from the viewpoint of an enterprise & collectively these architecture arr reffered to as enterprise architecture.

- Business architecture:
Defines the strategy of businesss, governance, organization.

- Application architecture - Serves as a blueprint for individual application system

- Information architecture : Defines the logical & physical data assets.

- Information Technology architecture: Defines the hardware & software building blocks that make up the overall information system.

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The architecture design process Feature process Focuses on the decomposition of a system into different components & their interaction to satisfy Functional & non-Functional requirement

Decomposition of the system into it's main components based on Functional requirements. The decomposition Can he modeled using a design structure matrix which shows the dependencies between design elements without specifying the granularity of the elements.

Evaluate the Architecture Design.

Each quality attribute is given an estimate so in order to gather qualitative measure or quantitative data, the design is evaluated.

Key Architecture Principle

- Build to Change Instead of Building to last.
- Reduce Risk & Model to Analyze
- use Models & Visualizations as a Communication & Collaboration Tool
- Use an incremental & itterative Approach

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Key Design Principles

- Separation of Concerns
- Single Responsibility Principle
- Principle of Least Knowledge
- Minimize large Design UpFront
- DeFine Data Format For a Layer.
- Naming Conventions.

Conclusion :

Design principles with relevant architectural style & structure are applied successFully.