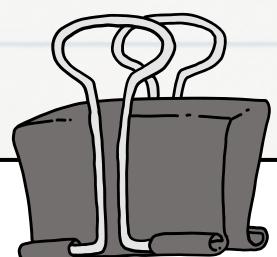


Enterprise System Architecture

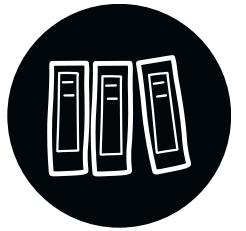
Zachman

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Introduction

- Zachman Framework Overview
- Evolution of Zachman
- Real World Example
- Zachman vs TOGAF
- Strengths and Weaknesses



About

The Zachman Framework is a **6 x 6 matrix** with **Columns** (Communication Interrogatives) and **Rows** (Reification Transformation). The columns represent **communication perspective** while the Rows represent **stakeholder viewpoints**.

The Zachman Framework is an **ontology** (structure) and not a methodology (process).



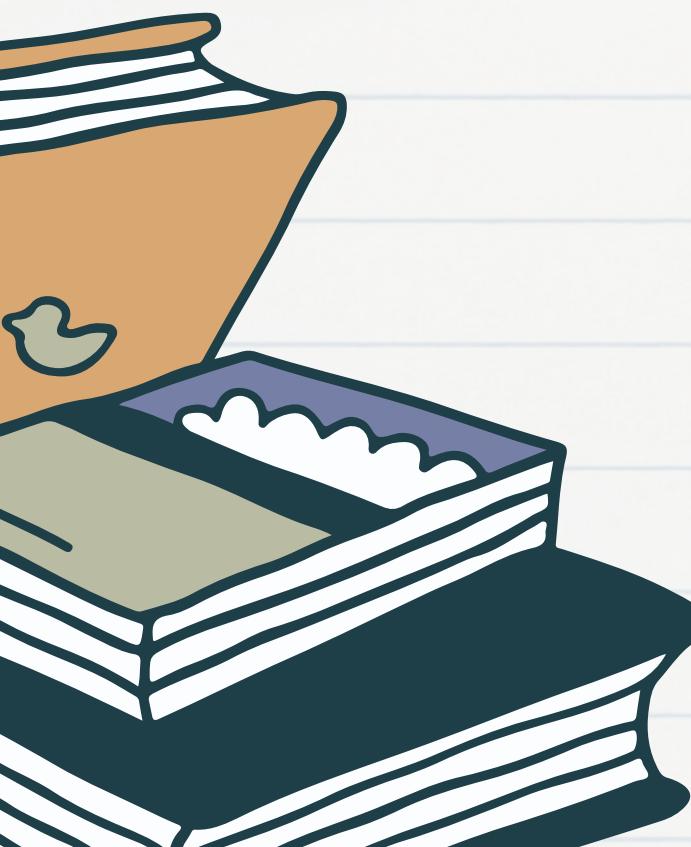
History

- **1984:** John A. Zachman creates the original framework titled '**Information System Architecture - A Framework**'. The framework initially consists of three columns.
- **1987:** First published version of the framework appears in the IBM System Journal as '**Framework for Information System Architecture**'.
- **1992:** IBM System Journal published the article 'A Framework for Information Systems Architecture', extending Zachman's ideas.
- **1993:** John Zachman renames the framework "**Enterprise Architecture - A Framework**" and launches an Enterprise Architecture consulting and education firm



History

- **2001:** Zachman's concepts for Enterprise Architecture become widely known. His framework is now referred as The Zachman Framework.
- **2002:** Intervista-Institute in Canada produces a new Zachman Framework graphic with aesthetics and graphic design, following copyright clearance from John Zachman.
- **2004:** The Zachman Framework is renamed **The Zachman Framework 2** with white lines on a vivid blue background.
- **2011:** The Zachman Framework Version 3.0, also known as '**The Enterprise Ontology**'.



Components of The Zachman Framework

Columns

- **What:** Identify and describe key company info.
- **How:** Find what's beneficial for the business.
- **Where:** Concentrate on arrangements and connections.
- **Who:** See who's doing what on the team.
- **When:** Look at the sequence of events.
- **Why:** Know why architecture is important and its goals.



Rows

- **Planner:** Plans the company's future.
- **Owner:** Makes sure the architecture fits business goals.
- **Designer:** Draws up the plans.
- **Builder:** Builds according to the plans.
- **Subcontractor:** Brings in extra help or parts.
- **Implementor:** Puts the plan into action and maintains it.

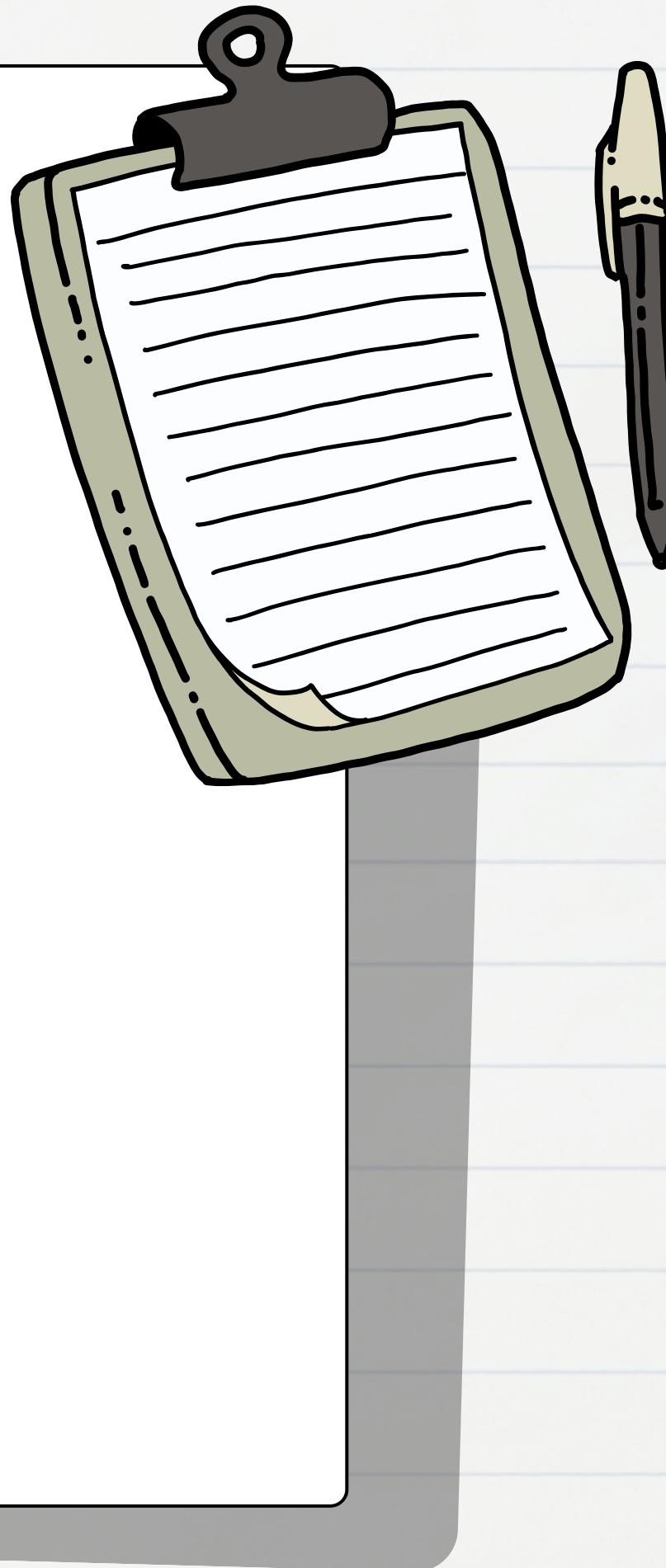


	what	how	where	who	when	why	
executive perspective	inventory identification 	process identification 	distribution identification 	responsibility identification 	timing identification 	motivation identification 	scope contexts
business perspective	inventory definition 	process definition 	distribution definition 	responsibility definition 	timing definition 	motivation definition 	business concepts
architect perspective	inventory representation 	process representation 	distribution representation 	responsibility representation 	timing representation 	motivation representation 	system logic
engineer perspective	inventory specification 	process specification 	distribution specification 	responsibility specification 	timing specification 	motivation specification 	technology physics
technical perspective	inventory configuration 	process configuration 	distribution configuration 	responsibility configuration 	timing configuration 	motivation configuration 	tool components
	data entities	process flows	distribution networks	responsibility assignments	timing cycles	motivation intentions	

Rules of The Zachman Framework

1. Avoid adding more rows or columns
2. Each column has a simple generic model
3. Each cell model specializes in its column's generic model
4. No meta concept can be classified into more than one cell
5. No diagonal relationship between cells
6. Refrain from changing the names of rows and columns
7. The logic is generic and recursive





Student Information System (SIS)

Implementation using the Zachman Framework

What (Data)

- Key data entities
- Data attributes and relationships
- Data sources
- Data quality standards

How (Function)

- Key business processes
- Functional requirements and use cases
- System capabilities

Where (Network)

- Cloud-based deployment with main database
- Application servers in a secure data center
- Network topology
- Support for mobile access



Who (People)

- Key stakeholders and user roles
- User access level and permissions
- Comprehensive user training programs

When (Time)

- Phased implementation approach
- Integration with existing university systems
- Ongoing maintenance, support, and upgrade processes

Why (Motivation)

- Alignment with university strategic objectives
- Addressing specific university challenges

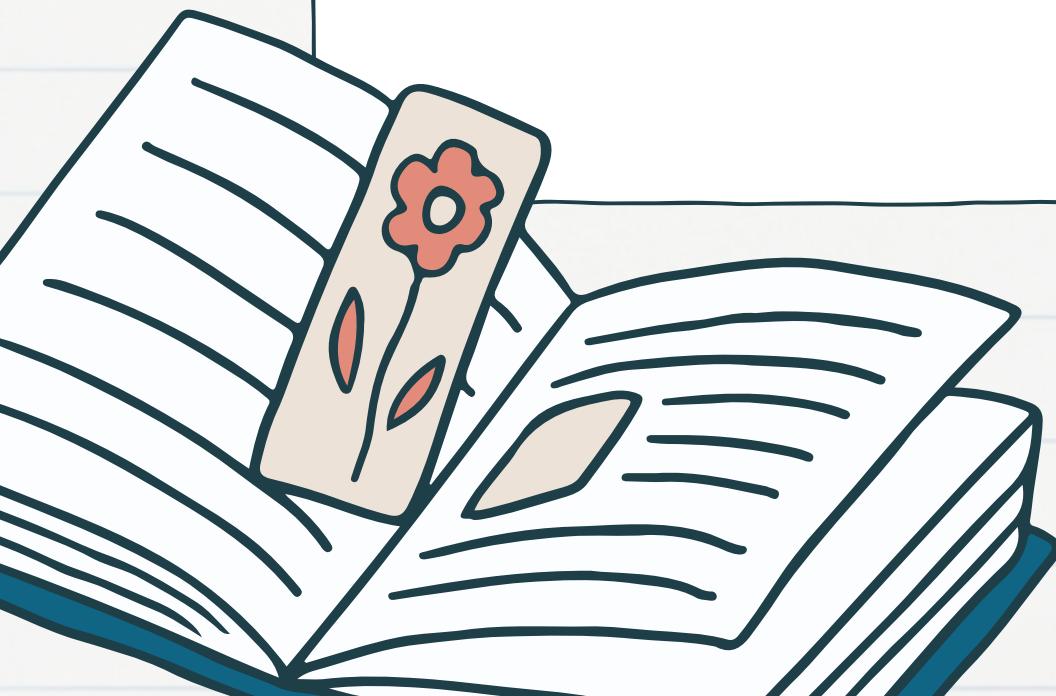


Comparative Analysis between Zachman and TOGAF

**Architecture
Development
Process**

**Views
and
Abstraction**

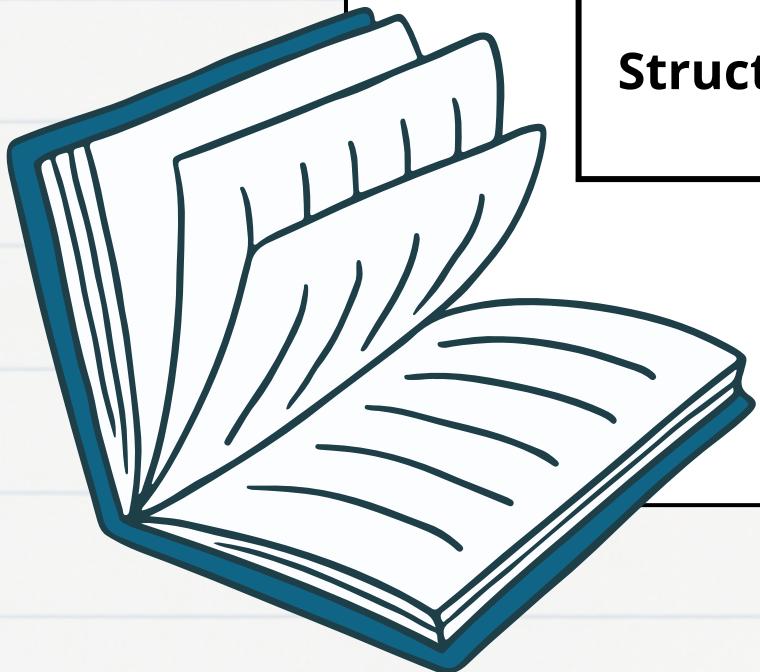
**Systems
Development
Life Cycle**



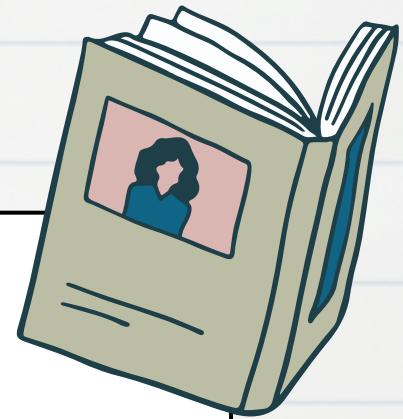
Architecture Development Process



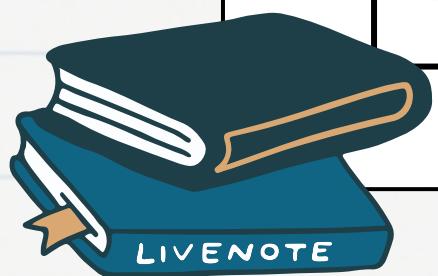
Aspect	TOGAF	Zachman Framework
Scope	Architectural description, implementation, and management	Architectural description and taxonomy
Level of Detail	More detailed approach	Less prescriptive
Structure	Four-layer architecture	Nine domains



Architecture Development Process



Aspect	TOGAF	Zachman Framework
Approach	Bottom-up	Top-down
Change Management	Emphasizes documenting and tracking changes	Allows for change without reworking existing structures
Usage	Smaller organizations or projects	Larger organizations with diverse departments
Framework Composition	12 principles, 4 phases, 10 roles	Nine domains or categories of information

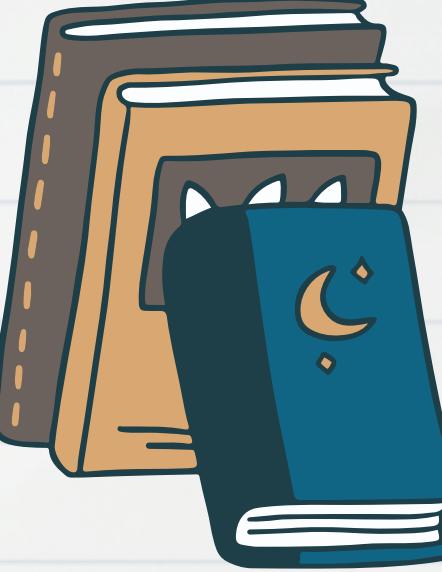


Comparative by Views

Framework	Planner	Owner	Designer	Builder	Subcontractor	User
Zachman	Scope	Business Model	System Model	Technology Model	Detailed Representations	Functioning System
TOGAF		Business Architecture View	Technical Architecture Views			



Comparative by Abstractions



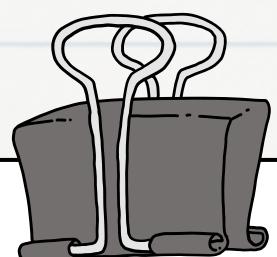
Framework	What	How	Where	Who	When	Why
Zachman	Data	Function	Network	People	Time	Motivation
TOGAF		Decision Making guidance		IT resource guidance		



Comparative by SDLC Phases

SDLC Phases/Framework	Planning	Analysis	Design	Implementation	Maintenance
Zachman	Yes	Yes	Yes	Yes	No
TOGAF		principles that support decision making across enterprise; provide guidance of IT resources; support architecture principles for design and implementation			

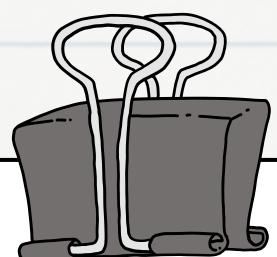




Advantages

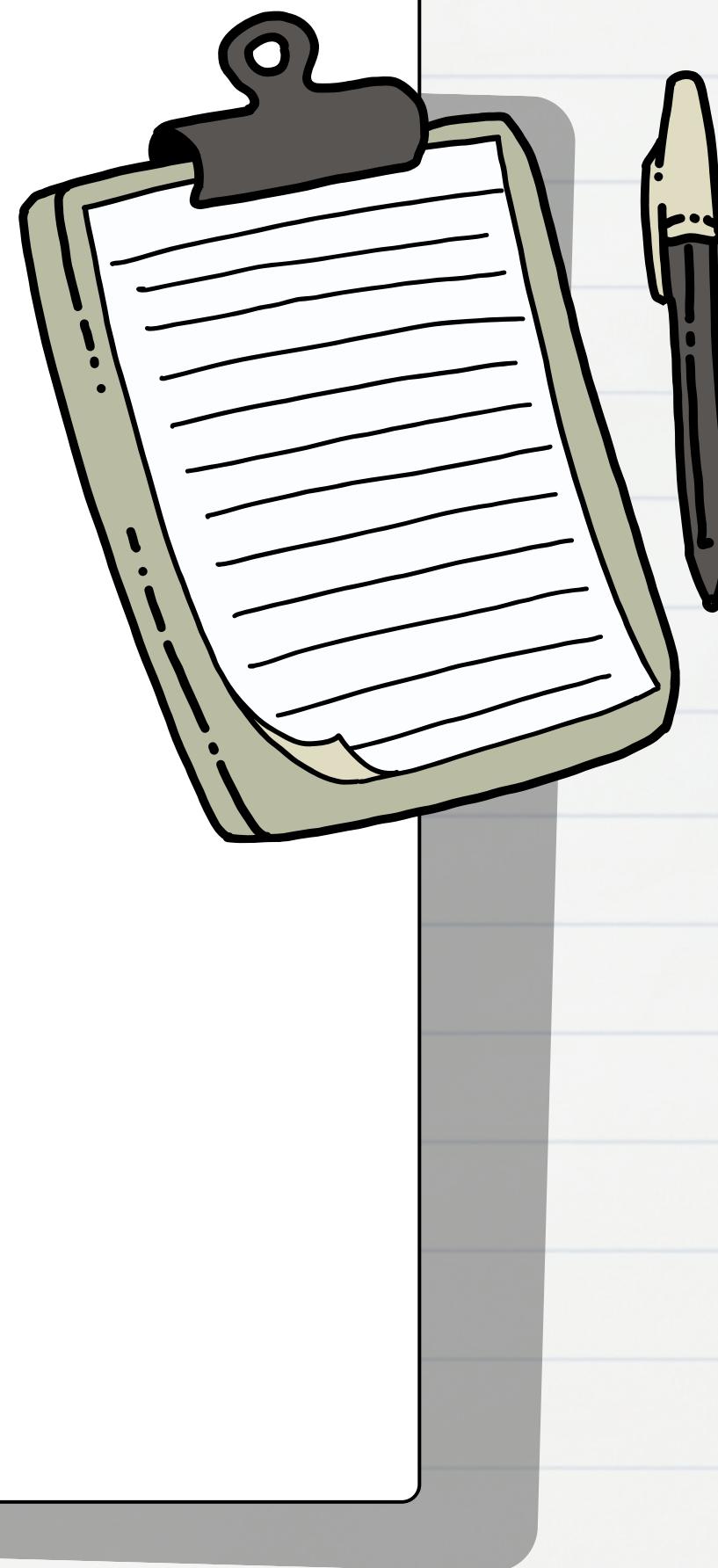
- Simplifies and prioritizes the organization process
- Integration with other tools
- Reduce cost
- Continuous improvement





Disadvantages

- No clear development methodology
- Limited guidance
- Minimal emphasis
- Scalability and complexity



Thank's For
Listening

