THE ZACHMAN ENTERPRISE FRAMEWORK

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ZACHMAN ENTERPRISE FRAMEWORK

- John Zachman in 1980 for IBM and is now in the public domain.
- The framework borrows from business design principles in architecture and manufacturing.
- Provides a way of viewing an enterprise and its information systems from different perspectives, and showing how the components of the enterprise are related.
- In today's complex business environments, many large organizations have great difficulty responding to change.
- Part of this difficulty is due to a lack of internal understanding of the complex structure

CONTINUE

- Enterprise Architecture is the process used by a business to make explicit representations of enterprise operations and resources.
- Zachman framework provides a means of classifying an organization's architecture.
- which can be used to model an organization's existing functions, elements and processes - and help manage business change.
- The Zachman enterprise framework is represented and promoted by the ZIFA (Zachman Institute for Framework Advancement).

MATRIX COLUMNS

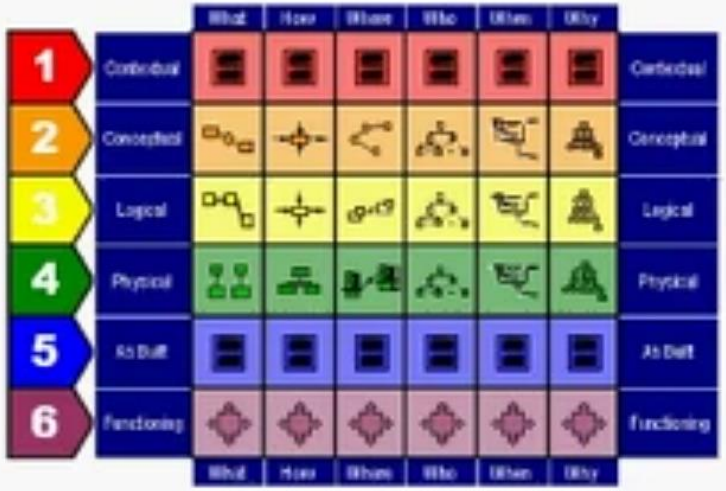
- The columns represent the interrogatives or questions that are asked of the enterprise. These are:
- What (data) – what is the business data, information or objects?
- How (function) – how does the business work, i.e., what are the business' processes?
- Where (network)– where are the businesses operations?
- Who (people) – who are the people that run the business, what are the business units and their hierarchy?
- When (time) – when are the business processes performed, i.e., what are the business schedules and workflows?
- Why (motivation) – why are the processes, people or locations important to the business

MATRIX ROWS

- Planner – understands the business scope and can offer a contextual view of the enterprise.
- Owner – understands the business model and can provide a conceptual view of the enterprise.
- Builder - develops the system model and can build a logical view of the enterprise.
- Designer – produces the technology model and can provide a physical view of the enterprise.
- Integrator (sub-contractor) – will understand detailed representations of specific items in the business, although they will have an out-of-context view of the enterprise.
- User – provides a view of the functioning enterprise, from the perspective of a user (e.g., an employee, partner or customer).

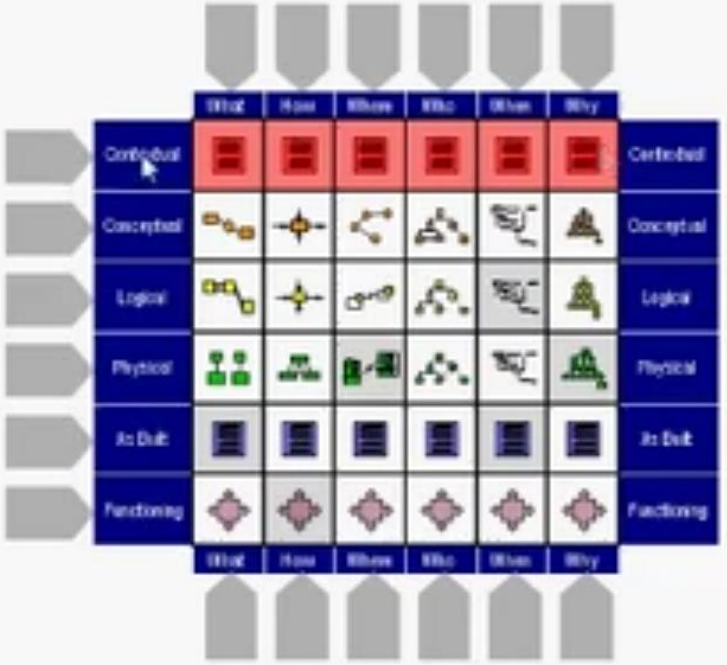
Zachman Framework: Perspectives

- **Row 1 – Scope**
  - External Requirements and Drivers
  - Business Function Modeling
- **Row 2 – Enterprise Model**
  - Business Process Models
- **Row 3 – System Model**
  - Logical Models
  - Requirements Definition
- **Row 4 – Technology Model**
  - Physical Models
  - Solution Definition and Development
- **Row 5 – As Built**
  - As Built
  - Deployment
- **Row 6 – Functioning Enterprise**
  - Functioning Enterprise
  - Evaluation



Framework Rules

- *Rule 1:*
  Columns have no order
- *Rule 2:*
  Each column has a simple, basic model
- *Rule 3:*
  Basic model of each column is unique
- *Rule 4:*
  Each row represents a distinct view
- *Rule 5:*
  Each cell is unique
- *Rule 6:*
  Combining the cells in one row forms a complete description from that view



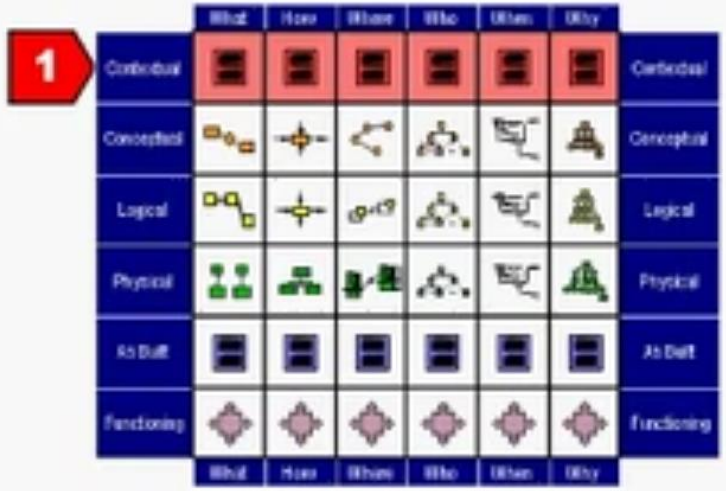
PLANER VIEW

	What or Data	How or Process	Where or network	When or schedule	Who or people	Why
Planner's view	A list of objects that the Enterprise is interested in.	A list of processes or functions that the organisation performs.	The business locations.	The cycles and events related to each function. .	A list of organisations important to the business.	A list of business objectives.
For example:	↓	↓	↓	↓	↓	↓
	Research areas, markets, products, services – whatever is important at a high level to the business.	Designing, testing, manufacturing, documenting, selling, distributing, marketing.	A list of business offices or regions in which the business operates.	Development schedules	Suppliers, partners, resellers, contractors and other third parties	High-level goals and targets

Zachman Framework – Row 1
Scope/Planner's View

- **Motivation/Why**
  Business goals, objectives and performance measures related to each function
- **Function/How**
  High-level business functions
- **Data/What**
  High-level data classes related to each function
- **People/Who**
  Stakeholders related to each function
- **Network/Where**
  VAlocations related to each function
- **Time/When**
  Cycles and events related to each function

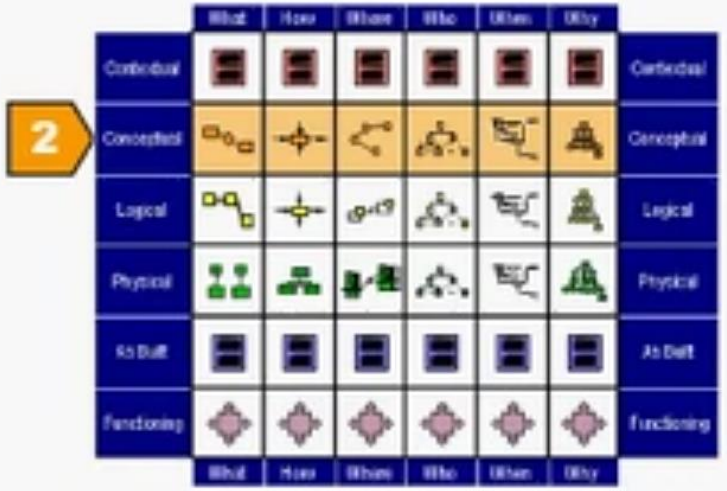
- **External Requirements and Drivers**
- **Business Function Modeling**



Zachman Framework – Row 2
Enterprise Model/Designer's View

- **Motivation/Why**
  Policies, procedures and standards for each process
- **Function/How**
  Business processes
- **Data/What**
  Business data
- **People/Who**
  VAroles and responsibilities in each process
- **Network/Where**
  VAlocations related to each process
- **Time/When**
  Events for each process and sequencing of integration and process improvements

- **Business Process Models**
- **Business Function Allocation**
- **Elimination of Function Overlap and Ambiguity**

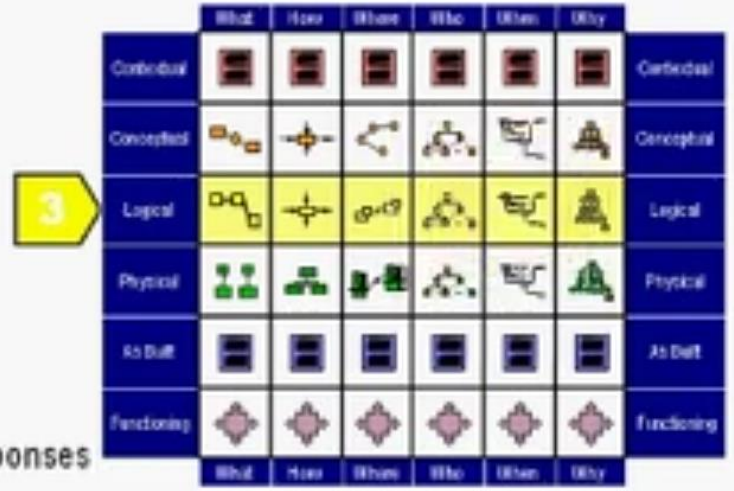


Baseball Model	1. What	2. How	3. Where	4. Who	5. When	6. Why
1. Scope (Commissioner of Baseball)	Equipment rules	Rules of baseball	Stadiums & TV, Leagues & divisions	Revenue sharing, Salary cap, Olympic teams	Chronology	Entertainment, Intellectual stimulation
2. Business Model (Team Owner)	NCAA bat rules	Define the strike zone	Shared use of stadiums	Alex Rodriguez' contract	Season schedules	Money, Power, Pride, Free bats
3. System Model (General Manager)	Batting practice facilities	Pitch tracker, Stadium instant replay	Placement of home plate	Fantasy baseball, Player contracts, 25-man roster	Pitching rotations	Wants a winning season
4. Technology Model (Team Manager)	Ideal bat weight & weight distribution	Teamwork & signals for hit & run, bunt	Mental rehearsal & understandings	Weekly statistics, Box scores, Sweet spot	Pitch count	Intentional walks, The blame game
5. Detailed Representation (Scientist, Engineer, Coach)	A swing, CoP, MoI, CoR	Rising fastball, Eye movement strategies, Speed & spin	Predict where & when, Fielders run curved paths	Players' physiological state, The count	Mental models, Work fast & change speeds	CFFF, Expect fastball with 3–0 count
6. Real system (Baseball Player)	Baseball Bat	One pitch & responses	Baseball Field	Major league baseball players	Pitch interval	Motivation for decisions

Zachman Framework – Row 3
System Model/Designer's View

- **Motivation/Why**
  VA policies, standards and procedures associated with a business rule model
- **Function/How**
  Logical representation of information systems and their relationships
- **Data/What**
  Logical data models of data and data relationships underlying VA information
- **People/Who**
  Logical representation of access privileges constrained by roles and responsibilities
- **Network/Where**
  Logical representation of the distributed system architecture for VA locations
- **Time/When**
  Logical events and their triggered responses constrained by business events and their responses

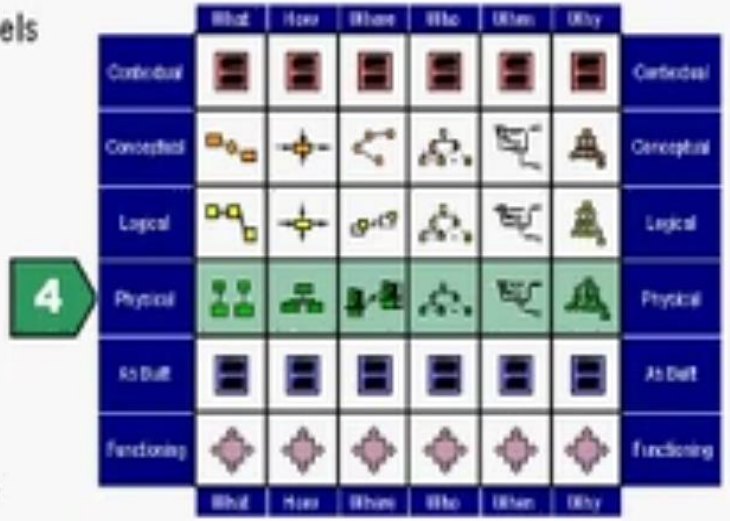
- **Logical Models**
- **Project Management**
- **Requirements Definition**



Zachman Framework – Row 4
Technology Model/Builder's View

- **Motivation/Why**
  VA business rules constrained by information systems standards
- **Function/How**
  Specifications of applications that operate on particular technology platforms
- **Data/What**
  Database management system (DBMS) type requirements constrained by logical data models
- **People/Who**
  Specification of access privileges to specific platforms and technologies
- **Network/Where**
  Specification of network devices and their relationships within physical boundaries
- **Time/When**
  Specification of triggers to respond to system events on specific platforms and technologies

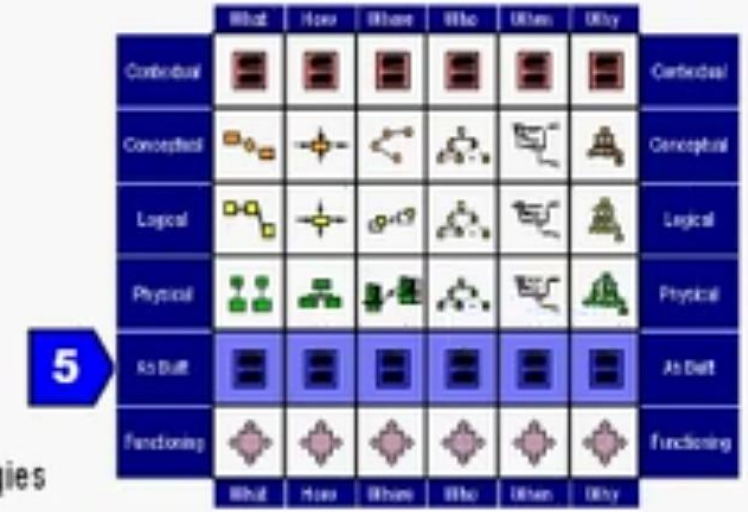
- **Physical Models**
- **Technology Management**
- **Solution Definition and Development**



Zachman Framework – Row 5
As Built/Integrator's View

- **Motivation/Why**
  VA business rules constrained by specific technology standards
- **Function/How**
  Programs coded to operate on specific technology platforms
- **Data/What**
  Data definitions constrained by physical data models
- **People/Who**
  Access privileges coded to control access to specific platforms and technologies
- **Network/Where**
  Network devices configured to conform to node specifications
- **Time/When**
  Timing definitions coded to sequence activities on specific platforms and technologies

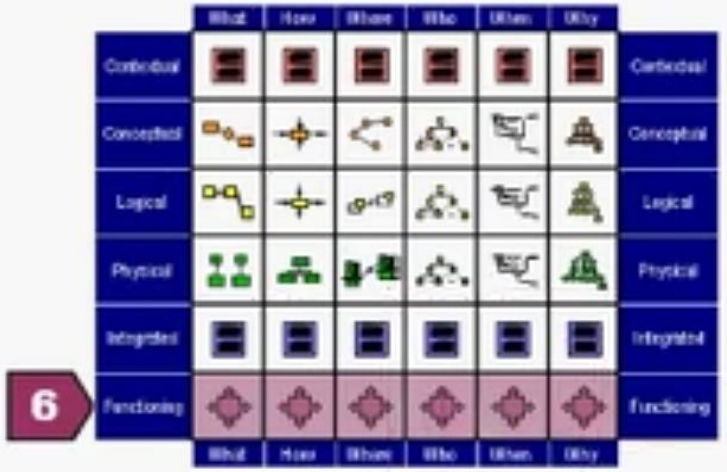
- **As Built**
- **Configuration Management**
- **Deployment**



Zachman Framework – Row 6
Functioning Enterprise/User's View

- **Motivation/Why**
  Operating characteristics of specific technologies constrained by standards
- **Function/How**
  Functioning computer instructions
- **Data/What**
  Data values stored in actual databases
- **People/Who**
  VA personnel and key stakeholders working within their roles and responsibilities
- **Network/Where**
  Sending and receiving messages
- **Time/When**
  Timing definitions operating to sequence activities

- **Functioning Enterprise**
- **Operations Management**
- **Evaluation**



	WHAT	HOW	WHERE	WHO	WHEN	WHY	
SCOPE CONTEXTS	Inventory Identification BPMN Inventory Types	Process Identification BPMN Process Types	Network Identification BPMN Network Types	Organization Identification Organization Chart Organization Types	Timing Identification Roadmap Diagram Timing Types	Motivation Identification BMM Strategic Analysis Mind Mapping Motivation Types	**STRATEGISTS AS THEORISTS**
BUSINESS CONCEPTS	Inventory Definition Conceptual ERD Fact Model Business Entity Business Relationship	Process Definition BPMN Business Transform Business Input	Network Definition BPMN Business Location Business Connection	Organization Definition BPMN Business Role Business Work	Timing Definition Roadmap Diagram PERT Chart (High Level) Business Moment	Motivation Definition Mind Mapping Business End Business Means	**EXECUTIVE LEADERS AS OWNERS**
SYSTEM LOGIC	Inventory Representation Use Case Requirement Diagram System Relationship	Process Representation UML Interaction Diagrams System Input	Network Representation Component Diagram Deployment Diagram System Connection	Organization Representation Use Case System Role System Work	Timing Representation State Machine System Cycle System Moment	Motivation Representation Decision Table System End System Means	**ARCHITECTS AS DESIGNERS**
TECHNOLOGY PHYSICS	Inventory Specification Physical Data Model Technology Entity Technology Relationship	Process Specification UML Interaction Diagrams Technology Input	Network Specification Component Diagram Deployment Diagram Technology Connection	Organization Specification Deployment Diagram Technology Role Technology Work	Timing Specification State Machine Technology Cycle Technology Moment	Motivation Specification Decision Table Technology End Technology Means	**ENGINEERS AS BUILDERS**
COMPONENT ASSEMBLIES	Inventory Configuration Physical Data Model Component Entity Component Relationship	Process Configuration UML Interaction Diagrams Component Input	Network Configuration Component Diagram Deployment Diagram Component Connection	Organization Configuration Deployment Diagram Component Role Component Work	Timing Configuration State Machine Component Cycle Component Moment	Motivation Configuration Decision Table Component End Component Means	**TECHNICIANS AS IMPLEMENTERS**
OPERATIONS CLASSES	Inventory Instantiation Operations Entity Operations Relationship	Process Instantiation Operations Transform Operations Input	Network Instantiation BPMN Operations Location Operations Connection	Organization Instantiation Use Case BPMN Operations Role Operations Work	Timing Instantiation Decision Table Operations Cycle Operations Moment	Motivation Instantiation Decision Table Operations End Operations Means	**WORKERS AS PARTICIPANTS**
	INVENTORY SETS	**PROCESS TRANSFORMATIONS**	**NETWORK NODES**	**ORGANIZATION GROUPS**	**TIMING PERIODS**	**MOTIVATION REASONS**	

Legends: UML & SysML BPMN ERD Other