

LECTURE 01

SYSTEM INTEGRATION & ARCHITECTURE

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Outline

- Grading Policy
- Academic Honesty
- Introduction to the Course
- The Evaluation of Enterprise Architecture
- Summary & Readings

Grading Policy

Classification

Assignments, Presentation & Quizzes	2 Marks
Attendance & Class Behavior	2 Marks
Mid-term Exam	12 Marks
Final-term Exam	24 Marks
Semester Project & Practical	20 Marks
Total	60 Marks

Academic Honesty

- Your work in this class **must** be your own
- If students are found to have collaborated excessively or to have cheated (e.g. by copying or sharing answers during an examination), all involved will at a minimum receive grades of “0” for the first violation
- Further violations will result in failure in the course

Few Things to Remember

- Attendance will be taken within 15 minutes at the start of class
- Students are allowed to enter into class within 30 minutes at the starting of class
- **Zero tolerance policy** on attendance, discipline of class during lectures!
- Assignments must be submitted on time, no late submissions
- In case of copied assignment both parties will be given **zero!**
- Projects, Presentation, Quizzes, Assignments, Class participation are very important.
- Don't miss your Classes, Quizzes, Presentations, Assignments and Projects!

Course Outline

Enterprise Architecture (EA) and Enterprise Engineering (EE). Balanced Scorecard and Strategy Maps (BSSM). Using Strategy Analysis (SA). Governance Analysis Using EA. Enterprise Architecture Methods. Using Business-Driven Data Mapping for Integrated Data. Strategic Modeling for Rapid Delivery of EA. Strategic Alignment, Activity and Workflow Modeling, and Business Rules. Using Business Normalization for Future Business Needs. Menu Design, Screen Design, Performance Analysis, and Process Modeling. Enterprise Application Integration Concepts. Enterprise Portal Technologies for Integration. Web Services for Real-Time Integration. Service Oriented Architecture for Integration. Managing and Delivering EA. Future Directions in EA and Integration.

Course Resource

All course resource available at:

<http://www.mubashirali.com/system-integration-architecture/>

Preface

Need to transform today's inflexible business environment to an agile enterprise that can change direction rapidly has never been greater.

Yet the structures, processes, and systems that we have today are inflexible: They are incapable of rapid change.

More computer hardware, or software, or packages, or staff, or outsourcing is not the solution. They are part of the problem.

This is *not* a computer problem. It is a business problem!

Needed methods and technologies that enable senior managers—together with their planners, business managers, business experts, and IT staff—to work together to achieve business change, with each group contributing its specific expertise.

The Evolution of Enterprise Architecture

Enterprise architecture was developed by John Zachman while with IBM in the 1980s, after observing the building and airplane construction industries and the IT industry.

DIFFERENT PERSPECTIVES

Buildings	Airplanes	Enterprise
Architect's Drawings	OWNER Work Breakdown Structure	Model of Business
Architect's Plans	DESIGNER Engineering Design	Model of Info System
Contractor's Plans	BUILDER Manufacturing Engineering Design	Technology Model

DIFFERENT ABSTRACTIONS

WHAT	HOW	WHERE
Material	Function	Location
Bill of Materials	Functional Specifications	Drawings
Data Models	Functional Models	Network Models

	What Data	How Function	Where Location
PLANNER Objectives/Scope	List of Things	List of Processes	List of Locations
OWNER Conceptual	Enterprise Model	Activity Model	Business Logistics
DESIGNER Logical	Logical Data Model	Process Model	Distrib. Architect.
BUILDER Physical	Physical Data Model	System Model	Technol. Architect.
SUBCONTRACTOR Out - of - Context	Data Definition	Program	Network Architect.
FUNCTIONING ENTERPRISE	Data	Function	Network

	What Data	How Function	Where Location	Who People	When Time	Why Future
PLANNER Objectives/Scope	List of Things	List of Processes	List of Locations	Organization Structure	List of Events	List of Goals Objectives
OWNER Conceptual	Enterprise Model	Activity Model	Business Logistics	Work Flow	Master Schedule	Business Plan
DESIGNER Logical	Logical Data Model	Process Model	Distributed Architecture	Human Interface	Process Structure	Business Rules
BUILDER Physical	Physical Data Model	System Model	Technology Architecture	Presentation Interface	Control Structure	Rule Design
SUBCONTRACTOR Out-of-Context	Data Definition	Program	Network Architecture	Security Interface	Timing Definition	Rule Specifications
FUNCTIONING ENTERPRISE	Data	Function	Network	Organization	Schedule	Strategy

Readings & References

1. Read and Prepare given Handouts
2. Chapter-1, Topic 1.1 : Enterprise Architecture for Integration: Rapid Delivery Methods and Technologies by Clive Finkelstein

Good Luck 😊