

SYSTEMS ANALYSIS AND DESIGN - TOPICS

Theories, Tools and Practices related to Systems Analysis and Design (SA&D) including (but not limited to) the following topics:

Evolution of Systems Analysis and Design	Implementation and Testing
Empirical Studies of SA&D methods	Design of Testing
Principles and Methodologies	Testing of Design
Initiating and Planning Systems Development Projects	Human Interface Design
Development Life Cycle	Hardware Interface Design
Soft Systems Methodology	Roles in Systems Analysis and Design
Joint Application Design	Project Management and Planning
Structured and Object Oriented SAD	Tools and Methodologies
Goal oriented SAD	Test data
Information Engineering	Operation and Maintenance
Expert Analysis and design	Maintenance Planning
System Life Cycle	Performance Planning
Specification Development	Documentation Design
Requirement Discovery	Software Engineering and Implementation
Requirement Analysis Paradigm	Reuse
Economics of SAD	Automated Tools for SAD
Feasibility Analysis	Intelligent Systems
Analysis Methods of Current Systems	CASE
Information Gathering Methods and Tools	Unified Modeling Language
Logical and Physical Design methods	High Level System Design and Analysis using
Database Design	Abstract State Machines
Data Design Methods	Emerging Tools for SAD
File Design	Formal methods of SAD
Business Process Modelling	Application of Expert Systems in SAD
Alternative Design Strategies	Intelligent SAD
Prototyping	Distributed Systems Analysis and Design
Decision Analysis	Models and methodology for agent-oriented
Risk Analysis	analysis and design
Knowledge based Analysis and Design	Software Quality Management
Model Driven Analysis	Case studies in systems analysis in Design
Accelerated Systems Analysis	Success factors and best practices in SAD
Component Design	Requirement Management Practices
Comparative Study and Evaluation of SA&D methods	

Education Aspects of Systems Analysis & Design (SA&D), including (but not limited to) the following areas:

Evolution of S&D Education	Virtual SA&D Education
Issues and prospects in Classroom Education of SA&D	Pedagogical Models for SA&D Education
Issues and prospects in Distance Education of SA&D	Philosophical Issues in SA&D education
Curriculum Design and Implementation	Project Based Education
Standardized Curriculum	Problem Based Teaching and Learning
Teaching Programming and Software Development	Collaborative Groupware
Technologies for SA&D Education - CBT, Multimedia	Group based Teaching and Learning
Video and Audio Conferences etc.	Tutorial Design
Use of Online Resources - Forums, Virtual Communities,	Assessment Techniques
Wikis, Digital Libraries etc.	CASE Tools in SA&D Education
Case Studies and Evaluation of SA&D Education	SA&D Research in Classroom
Exchange of Teaching Materials	

Application specific Analysis, Modelling, Design, Testing, Implementation and Maintenance of systems including (but not limited to) the following areas:

Agent Based Systems
Bio Engineering System
Bio Informatics
Bio-Authentication Systems
Identity Management System
Network Systems
E-Government systems
E-Health systems
Business and E-commerce Systems
ERP systems
Database Driven Systems
Decision Support Systems
Distance Education Systems
Expert Systems
Fuzzy Systems
Information Systems
Interactive Systems
Knowledge based systems
Management Information Systems
Data Ware Housing and Data Mining Systems
Medical Information Systems
Medical Instrumentation
Mobile Systems

Multimedia Systems
Intelligent Systems
Speech Processing Systems
Pattern Processing System
Reliable systems
Maintenance Systems
Rapid Application Development
Real Time Systems
Remote Systems
Robotic Systems
Security Systems
Space Mission Analysis and Design
Virtual Systems
WEB based systems
Role modelling for agent system analysis,
design, and implementation
Organizational Abstractions for the Analysis
and Design of Multi-agent Systems
Designing concurrent, distributed, and real-time
applications with UML
Pre-Built Software Applications
Open Source Software (OSS) Solutions
commercial off-the-shelf (COTS) applications