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
Empirical Studies of SA&D methods
Principles and Methodologies
Initiating and Planning Systems Development Projects
Development Life Cycle
Soft Systems Methodology
Joint Application Design
Structured and Object Oriented SAD
Goal oriented SAD
Information Engineering
Expert Analysis and design
System Life Cycle
Specification Development
Requirement Discovery
Requirement Analysis Paradigm
Economics of SAD
Feasibility Analysis
Analysis Methods of Current Systems
Information Gathering Methods and Tools
Logical and Physical Design methods
Database Design
Data Design Methods
File Design
Business Process Modelling
Alternative Design Strategies
Prototyping
Decision Analysis
Risk Analysis
Knowledge based Analysis and Design
Model Driven Analysis
Accelerated Systems Analysis
Component Design
Comparative Study and Evaluation of SA&D methods

Implementation and Testing
Design of Testing
Testing of Design
Human Interface Design
Hardware Interface Design
Roles in Systems Analysis and Design
Project Management and Planning
Tools and Methodologies
Test data
Operation and Maintenance
Maintenance Planning
Performance Planning
Documentation Design
Software Engineering and Implementation
Reuse
Automated Tools for SAD
Intelligent Systems
CASE
Unified Modeling Language
High Level System Design and Analysis using Abstract State Machines
Emerging Tools for SAD
Formal methods of SAD
Application of Expert Systems in SAD
Intelligent SAD
Distributed Systems Analysis and Design
Models and methodology for agent-oriented analysis and design
Software Quality Management
Case studies in systems analysis in Design
Success factors and best practices in SAD
Requirement Management Practices

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

Evolution of S&D Education
Issues and prospects in Classroom Education of SA&D
Issues and prospects in Distance Education of SA&D
Curriculum Design and Implementation
Standardized Curriculum
Teaching Programming and Software Development
Technologies for SA&D Education - CBT, Multimedia Video and Audio Conferences etc.
Use of Online Resources - Forums, Virtual Communities, Wikis, Digital Libraries etc.
Case Studies and Evaluation of SA&D Education
Exchange of Teaching Materials

Virtual SA&D Education
Pedagogical Models for SA&D Education
Philosophical Issues in SA&D education
Project Based Education
Problem Based Teaching and Learning
Collaborative Groupware
Group based Teaching and Learning
Tutorial Design
Assessment Techniques
CASE Tools in SA&D Education
SA&D Research in Classroom

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