Index

A

action research (AR) 573
ActivityKind 246
activity types 37
adaptive software development (ASD) 2
agent oriented software engineering (AOSE) 360
aggregated class hierarchies 398
agile development support, new fragments 229
agile method fragments 243–270
agile software development 223–242
agile software development, characteristics 224
architecting method 5
architecture development method (ADM) 2
architecture readiness maturity (ARM) 5, 15
architecture stack and perspectives (ASAP) 10
AS4651 metamodel 244
asynchronous transfer mode (ATM) 589
automated medical diagnostic system 544–559
automated medical diagnostic system, design 548

B

back propagation neural network (BPNN) 526
binary search trees 151
BPEL, main concepts 209
BPEL support 210
Business Process Management xxvii
business process management, definition 191
business process management, history 189
business process management initiative (BPMI) 203
business process modeling, foundations 189–222
business process modeling languages and methods 197
business process modeling notation (BPMN) 203
business process modeling techniques 196

C

cellular technology 603
certification and accreditation (C&A) 299
chain reaction pattern 405
change management 133
class templates 389
clinical decision support systems (CDSS) 574
clinical knowledge with RCTs 568
clustering in course ontology 622
cognitive functions 306
cognitive load theory 309
cognitive overload 312
cognitive perspective on human-computer interface design 305–325
composing mixed objects 417
concept mapping 612
concept types 40
conceptual-content relationship 315
conceptual distance 619
concurrent activities 38
conditional activities 39
constant-time tables 155
constructive interface 307
context analysis 363
context aware systems 358
contextual interface 308
course concept dependency schema (CCDS) 612
course knowledge representation 611
course ontology 611
CSCW systems, modern design dimensions 371–387
CSG extraction 615
customer relationship management (CRM) 130

D

data acquisition 274
database server configuring 287
data maintenance and enhancement 276
data marts 275
data mining tasks 525
data resources design, utility-cost tradeoffs 271
data staging 274
data warehouse (DW) 272
data warehouse design 274
decision support (DS) 124
decision support systems (DSSs), design and analysis xv–xxv, 119–129
decision trees (DT) 528
design patterns 388
design philosophy 3
design science (DS) approach 122
design techniques 123

Copyright © 2008, IGI Global, distributing in print or electronic forms without written permission of IGI Global is prohibited.
development life cycle, security considerations  295–304
diagram transformation  183
diagram transformation, examples  185
digital rights management (DRM) 484–500
digital watermarking  484–500, 487
discrete fourier transform (DFT)  491
DocumentKind  231
domain representation  364
DRM requirement analysis  486
DRM technologies  487
DSS enhancement, 3 ways  124
DSS in retailing business  126
DSS research  126
dual coding theory  309
DWM algorithms, performance analysis  496
dynamic essential modeling of organization  181
dynamic knowledge streamlining  379

e

e-type softwares  164
effective health information systems  560–583
effective human-computer interface  312
EIS design framework  344
EIS design methodology  347
EIS design UML 2.0 profile  348
EIS metamodel  345
enablers’ analysis  364
engineering viewpoint metamodel  341
enterprise information systems (EIS)  326–356
ETL (extraction transformation loading)  276
event-driven process chain (EPC)  199
executable UML (xUML)  170
extended enterprise architecture framework (E2AF)  2
extreme programming (XP)  301
extreme sprogramming (XP) xvii,  169

F

fetching strategies  458
foundations of modeling  194
framework for e-business architecture and technology (FEAT)  5

G

generic application platform (GAP)  17
globalization  135
granularity of representation  611
group level  111

H

H.264  472
hashing  155
healthcare continuity  565
health informatics, what is it?  561
health information systems, influencing factors  562
health knowledge, effective use  574
hibernate  433–468
hibernate queries  455
hierarchy by object composition  402
homogeneous traffic  71
human-computer interface design, cognitive perspective  305–325
human-machine interface  603
human perceptions and interface  307
hybrid data mining, proposed approach  533
hybrid data mining for medical applications  523–543
hybrid data mining systems  531

I

improvisation, characteristics  107
improvisation concept  106
individual attitude concept  108
individual attitude toward improvisation, antecedents  108
individual level  110
inductive learning unit (ILU)  534
information systems curriculum design processes  628–641
information systems development  105–118
inheritance structures  453
integrated services digital network (ISDN)  589
integration-design knowledge  381
interoperability  602
interpretative interface  308
intrinsic and extraneous load, relationship  310
irreducibility concept  165

J

joint application development (JAD)  301

K

k-means  529
K-nearest neighbor (k-NN)  530
kernel theory  505
knowledge commodity  566
knowledge management (KM) approach  121
knowledge warehouses (KW), creating  124

L

LBS database design  63
LBS system architecture design  61
LBS system components  57
LBS systems performance, case study  65
learning object metadata (LOM)  610
linear hard to soft margin SVM  504
location-based service (LBS) system analysis and design  55–75
location based service requirements analysis  58
Index

location based services examples 56
location infrastructure requirements 60

M
machine learning 524
machine learning techniques for medical diagnostics 551
many-to-many associations 449
maximize (M) 284
MB classification 477
medical robots 603
meta-deliverable modeling 40
meta-modeling for method evolution analysis 44
meta-process modeling 37
metadata 276
metamodeling 195
microwave links 590
MinimalPerfectHash class 157
minimizing embedding error 492
mixer pattern 413
mobile telemedicine system 593
model-based EIS design 335
model-based system design 328
model driven architecture (MDA) 171
modeling languages 198
modeling methods 206
ModelKind 231
modelling human gait 546
multiagent CSCW systems 371–387
multiagent mobile systems 358
multiagent supported collaborative work 374
multiclass SVM 507

N
naive bayes (NB) 531
non-homogeneous traffic 72
non-restricted model 142
non-restricted model, illustrative example 144
nonlinear SVM 504

O
object-classifier template 413
object-oriented (OO) approach 121
object chain example 408
object chaining 408
object chain pattern 408
object classifier, implementing 416
object factory pattern 425
one-to-one associations 448
ontology 195
open distributed processing reference model (RM-ODP) xx, 326, 327, 333
OPEN process framework (OPF) 229
optimal cell size for server deployment 69
optimal tree 152
optimal tree extracting 154
organizational level 112

P
paradigm mismatch problem 435
parameter performance, observing 620
pattern based video coding 469–483
pattern codebook 476
pattern identification code (PIC) 477
perceptual-content relationship 315
perceptual-interface relationship 314
perfect hash tables 155
persistent objects 463
petri nets 198
platform-independent model (PIM) 2
PM-SDLCs, phases and artifacts 79
postpone (P) 286
power-hungry DSS 125
prerequisite effect of a node 614
prescriptive artineering procedure (PAP) 5, 6
primary data repository 275
problem-based learning (PBL) xxv, 642
process-deliverable diagram (PDD) 36, 42
process-deliverable diagrams 36
process models of SDLs (PM-SDLCs) 76–89
producer-related metaclasses 227
producer fragments 229
program evaluation and review technique (PERT) 131
project management 130–139
project management, risks 132
project management institute's (PMI) 132
project management professional (PMP) 132
project success 133
prototyping 301
public switched telephone network (PSTN) 588

R
rapid application development (RAD) 301
rapid architecting process (RAP) 5, 11
rational unified process for systems engineering (RUP SE) 336
recreating agile methods 246
recursion pattern 427
recursive composition 425
reductionism 163
release definition increment 45
relevant measure 478
requirements engineering 90–104
requirements management 45
restoring the tree 155
restricted model 143
restricted model, illustrative example 145
reuse models 142
RoleKind 231
RUP system engineering 336

S
s-type software 164
SAD hybrid course redesign 645
SAD hybrid course structure 646
SAM modules 5
satellite technology 590
saving the tree 154
SDLC, system and software design 298
security and privacy imperative 563
security mechanisms, incorporating 365
security of data 604
security reviews and audits 300
self-organizing feature maps (SOFMs) 527
self organization map (SOM) 527
sequential activities 37
similarity measure 477
situated analysis and design, a methodology 23–34
situated analysis and design, different? 31
sleep apnoea syndrome 546
soft systems methodology (SSM) 31
software design, class patterns and templates 388–432
software evolution, emerging science 161–168
software evolution, historical notes 162
software interface design 306
software interface design, framework 313
software interface design, guidelines 318
software modeling processes 169–178
solutions architecting 1–22
solutions architecting method (SAM) xii, 1
sorted tables 149
stage-related metaclasses 228
stage fragments 231
standard coding 471
statistical data mining algorithms 528
strategies for static tables 148–160
string handling class template 409
structured modeling (SM) approach 122
support vector machine (SVM) xxii–xxv, 501–522, 528
support vector machines (SVMs) 546
SVM classification 502
SVM regression 511
switch (S) 284
symbolic representation 614
synthetic interface 308
systematic implementation of project management 130–139
system capacity planning 68
system control vs. learner control 311
system design 327
systems analysis 632
systems analysis and design (SAD) xxv, 642
systems development life cycle (SDLC) xix, 295
systems implementation 634
systems planning 630

T
tables optimized by probability 151
Tao of IT development and engineering (TIDE) 17
TaskKind 245
TeamKind 229
TechniqueKind 245
technology architecture planning (TAP) 5, 7
telemedicine 584–608
telemedicine research 597
test-driven design (TDD) 2
third party certification 365
threshold coefficient (λ) 615
ToolKind 231

U
UML4ODP 341
UML activity diagrams 202
UML representation model 337
UML review 169–178
unifying dissimilar interfaces 397
unordered activities 38
upgrade (G) 285
utility of data resources, inequality 277

V
VESA true color library, design 390
VLBR schemes 473

W
watermarking algorithm, robustness and security 495
watermarking technique 490
Web-based DSS 125
Web ontology language (OWL) xxiv, 609
well-defined software process 79
wireless technologies 591
WorkFlow-related metaclasses 244
WorkProduct-related metaclasses 227
work product fragments 231
WorkUnit- and workflow-related metaclasses 229
WorkUnit-related metaclasses 244
work unit fragments 245

X
xUML review 169–178

Y
yet another workflow language (YAWL) 201

Z
Zachman framework 331