Index

Symbols

2D-FBP 201
3-D-based e-learning applications 137
3-D World 349

A

A/VU 247, 248, 253, 254, 255, 256, 257, 258, 259, 260, 263, 267
adaptation model 80
adaptive human motions 138
adaptive interactive Internet team video (AI2TV) 72
adaptive self consistent learning object set (ASCLO-S) 11
ADL 250, 263, 264, 265
advanced distributed learning (ADL) initiative 13
agile/virtual university (A/VU) concept 247
agile/virtual university framework 255
agile/virtual university model, properties 256
AI2TV 72, 73, 74, 76, 77, 80, 81, 82, 83, 84
animation quality 139
ASCLO-S 11, 15
Athabasca University (AU) 360
Athabasca University (AU), LMS 167
automatic digital content generation system 5
avatars significance 344

B

bin packing 200
bin packing problem (BPP) 200
biovision hierarchy (BVH) 138
brokerage for educational systems 250
business layer 156
BVH 138, 139

C

CAA 174, 175, 186
CAL 325, 326
calligraphy 96–105
calligraphy learning services 100
CAMP 181, 182, 183, 184, 185
Canadian Virtual University (CVU) consortium 359
Chinese brush calligraphy 96–105
clustering process 92
CMC 345
CMS 157
collaborative distance learning 72–86
computer-assisted learning (CAL) 326
computer-mediated communication (CMC) 345
computer aided assessment (CAA) 174
computer assisted marking 174–189
computer assisted marking (CAM) 175–189
computer assisted marking prototype (CAMP) 181
computer supported collaborative learning (CSCL) 108
computer vision (CV) software challenges and goals 271
computer vision (CV) technologies 268
cost concept relationship-based engineering training system (CRETS) 27
cost constrained two-dimensional cutting stock problem (CTDC) 201
content-based appropriation 299
content aggregation model (CAM) 42
continuous media (CM) 190
controller layer 155
course management subsystem (CMS) 157
CRETS 27, 29, 32, 33, 34, 35, 37
CRETS development 32
CSCL 108, 117, 118
CTDC 201, 202
cutting stock 200
CV 268, 269, 270, 271, 272, 273, 274

D
data layer 157
digital librarian 347
distance education (DE) programmes 219
Dublin Core Metadata Initiative (DCMI) 65
Dublin Core Schema (DC) 65
dynamic writing process simulating 101

E
e-learning in Canada 356–363
e-learning objects concept 248
e-learning practitioners, development 361
e-learning research 357
e-learning scenario 66
e-learning scenario, ontology-based 63–71
e-learning standards 12
e-learning system, main components 12
e-learning trends in Canada 362
e-textbook construction 87–95
e-training courses 26–39
e-world 9–25
e-world, assessment 16
e-world, definition and context 16
educational systems, brokerage 250
engineering e-training courses 26–39
English grammar, tenses 326
English knowledge test, example 157
English tense diagnosis expert system (ET-DES) 331
ESL/EFL (English as second/foreign language) 325
ET-DES 331, 332, 335, 337, 340
ET-DES, evaluation 337
eWorkbook 145
eWorkbook, features 147
eWorkbook architecture 154
EZ Presenter (EZP) 4

F
Fast-Talk Phonetic-Based Searching technique 6
FLE 107, 108, 109, 113, 114, 118
flexible presentation applications (FPA) 193
FPA 193, 195
functional LOs 123
functional LOs, types 124
fuzzy expert system for English tense diagnosis 331

G
Gateway to Educational Materials (GEM) 250
GEM 250
genie 347
geographic information systems (GIS) 234–245
GESTALT 250, 251, 264
Getting Educational Systems Talking Across Leading Edge Technologies (GESTALT) 250
GIS computer laboratory, virtual 239
GIS learning systems 235
GRADES 326
grammar diagnostic expert system (GRADES) 326
guided LOs 124

H
hard SCORM 41
hard SCORM authoring tool 45
hard SCORM authoring tool, implementation 48
hard SCORM tags 46
history tracking 152
human-computer interaction issues 44
human motion animation 134–144
human motion decomposition 138
human motion for e-learning 134–144
human motions formulation 136
hyper pens 41, 48

I
IGNOU graduates, distance education 217–229
IMS-learning design (IMS-LD) 295
IMS question & test interoperability (QTI) 176
India Gandhi National Open University (IGNOU) 217
inhabited virtual learning worlds (IVLW) 342–355
instance trees 90
instructional videos, Semantic compression 77
intelligent agents, significance 346
intelligent video detection agent (IVDA) 268
interaction, non-computer based 269
Index

interaction-based appropriation 299
interactive e-learning 274
IVDA 268, 270, 272, 273, 277, 284, 285
IVLW, empirical study 350
IVLW significance 344

K
knowledge base (KB) 331
knowledge building 108

L
latent semantic analysis (LSA) 106
LCMS 12, 14
learning companion 346
learning content management system (LCMS) 12
learning environment, components 111
learning management systems (LMS) 12, 42, 146, 167, 359
learning object discussion environment (LODE) 128
learning object retrieval 100
learning objects (LOs) 120, 121
learning objects (LOs), devising a typology 123
levels of articulation (LoA) 136
levels of detail (LoD) 134
LMS 12, 13, 14, 21, 22, 24, 146, 147, 163
LoA 136, 137
LODE 128, 129, 130, 131
LoD of human motions 136
LO repositories, pedagogical expertise 128
LOs, functional 123
LOs, structured 123
LSA enhancements 115
LSA performance 115

M
manual marker rubrics 177
metadata 64, 65, 66
metadata for e-learning 65
mixed LOs 125
MOODLE 167–173
MOODLE, web sites 171
multiple choice questions (MCQ) 175

N
nano material 32
nano structure 32
NCP 101
non-computer based interaction 269
number of connected points (NCP) 101

O
OAI 250, 265
ODL 217, 218
on-line testing system 145–166
ontology-based e-learning scenario 63–71
ontology design and representation 67
open and distance learning (ODL) 217
Open Archive Initiative (OAI) 250

P
package interchange file (PIF) 42
pedagogy-oriented design 120–133
peer-to-peer e-learning 269
pervasive learning environment 45
pilot system 348
PRIME 196
problem LOs 125
profile aware retrieval optimizer (PRIME) 196
PROMETEUS 250
PTZ camera 274
PTZ camera centering 282
PTZ camera control algorithms 276
PTZ camera hardware 275

Q
QMS 156
QTICAM 176, 177, 178, 179, 180, 181, 182, 184, 185, 186
QTICAM implementation 181
QTI computer assisted marking (QTICAM) 176
QTI computer assisted marking specification 176
question management 147
question management subsystem (QMS) 156
question metadata 148

R
real-time distance lecture system 2
real-time storage function 5
restricted presentation applications (RPA) 193
retrieval optimization, memory’s role 203
RPA 193, 195
run-time environment (RTE) 11, 14, 42
S
Saafir architecture 307
Saafir integration 312
SCORM 9, 10, 11, 12, 13, 14, 16, 21, 22, 23, 24, 250, 263, 264
SCORM compliant courseware authoring tool 40–62
SCORM RTE 14
SCORM specification 42
SCORM standard 13
semantic compression 74, 75, 76, 78, 79, 81, 83, 84, 85
Semantic compression of instructional videos 77
Semantic mapping 68
Semantic querying 67
sequencing and navigation model (SN) 42
simple object access protocol (SOAP) 11
streaming media (SM) 190, 191
structure-based appropriation 299
structured LOs 123
structured LOs, examples 125
structured LOs, types 124
synchronization, evaluating 81
synchronous e-learning 269

T
technology enhanced learning (TEL) 359
test authoring 158
test management 149
test management subsystem (TMS) 157
test presentation 150
test visualization 153
TMS 157
two-dimensional free-form (irregular shapes) bin packing (2D-FBP) 201
typology of learning objects (LOs) 123

U
ubiquitous computing technologies, facilitating education 231
ubiquitous computing technologies in education 230–233
ubiquitous learning 230
UMS 156
Universal Description Discovery and Integration (UDDI) 11
user management subsystem (UMS) 156

V
vector space model (VSM) 89
virtual learning, constraints and benefits 241
virtual university concept 249
virtual university design and integration 262
voice-data keywords 6
VSM 89, 90

W
WBL 290, 291, 292, 293, 294, 298, 299, 303, 307, 308, 309, 319, 320
Web-based learning (WBL) systems 290
Web-based learning curriculum 288–323
web page representation model 89
Web Services 9, 10, 11, 12, 21, 22, 23, 24
Web Services Description Language (WSDL) 11
what I see is what you see (WISIWYS) 73
WISIWYS 73