Index

Symbols

2D-FBP 201 business layer 156 3-D-based e-learning applications 137 BVH 138, 139 3-D World 349 \mathbf{C} A CAA 174, 175, 186 A/VU 247, 248, 253, 254, 255, 256, 257, 258, 259, CAL 325, 326 260, 263, 267 calligraphy 96-105 adaptation model 80 calligraphy learning services 100 adaptive human motions 138 CAMP 181, 182, 183, 184, 185 adaptive interactive Internet team video (AI2TV) Canadian Virtual University (CVU) consortium 359 Chinese brush calligraphy 96–105 adaptive self consistent learning object set (ASCLOclustering process 92 S) 11 CMC 345 ADL 250, 263, 264, 265 CMS 157 advanced distributed learning (ADL) initiative 13 collaborative distance learning 72-86 agile/virtual university (A/VU) concept 247 computer-assisted learning (CAL) 326 agile/virtual university framework 255 computer-mediated communication (CMC) 345 agile/virtual university model, properties 256 computer aided assessment (CAA) 174 AI2TV 72, 73, 74, 76, 77, 80, 81, 82, 83, 84 computer assisted marking 174-189 animation quality 139 computer assisted marking (CAM) 175-189 ASCLO-S 11, 15 computer assisted marking prototype (CAMP) 181 Athabasca University (AU) 360 computer supported collaborative learning (CSCL) Athabasca University (AU), LMS 167 108 automatic digital content generation system 5 computer vision (CV) software challenges and goals avatars significance 344 computer vision (CV) technologies 268 B concept relationship-based engineering training system (CRETS) 27 bin packing 200 bin packing problem (BPP) 200 constrained two-dimensional cutting stock problem (CTDC) 201

biovision hierarchy (BVH) 138 brokerage for educational systems 250

content-based appropriation 299	F
content aggregation model (CAM) 42	
continuous media (CM) 190	Fast-Talk Phonetic-Based Searching technique 6
controller layer 155	FLE 107, 108, 109, 113, 114, 118
course management subsystem (CMS) 157	flexible presentation applications (FPA) 193
CRETS 27, 29, 32, 33, 34, 35, 37	FPA 193, 195
CRETS development 32	functional LOs 123
CSCL 108, 117, 118	functional LOs, types 124
CTDC 201, 202	fuzzy expert system for English tense diagnosis 331
cutting stock 200	G
CV 268, 269, 270, 271, 272, 273, 274	d
D	Gateway to Educational Materials (GEM) 250
D	GEM 250
data layer 157	genie 347
digital librarian 347	geographic information systems (GIS) 234–245
distance education (DE) programmes 219	GESTALT 250, 251, 264
Dublin Core Metadata Initiative (DCMI) 65	Getting Educational Systems Talking Across Lead-
Dublin Core Schema (DC) 65	ing Edge Technologies (GESTALT) 250
dynamic writing process simulating 101	GIS computer laboratory, virtual 239
dynamic writing process simulating 101	GIS learning systems 235
E	GRADES 326
	grammar diagnostic expert system (GRADES) 326
e-learning in Canada 356–363	guided LOs 124
e-learning objects concept 248	
e-learning practitioners, development 361	H
e-learning research 357	hard SCORM 41
e-learning scenario 66	hard SCORM authoring tool 45
e-learning scenario, ontology-based 63-71	hard SCORM authoring tool, implementation 48
e-learning standards 12	hard SCORM tags 46
e-learning system, main components 12	
e-learning trends in Canada 362	history tracking 152
e-textbook construction 87–95	human-computer interaction issues 44 human motion animation 134–144
e-training courses 26–39	
e-world 9–25	human motion decomposition 138
e-world, assessment 16	human motion for e-learning 134–144 human motions formulation 136
e-world, definition and context 16	
educational systems, brokerage 250	hyper pens 41, 48
engineering e-training courses 26–39	I
English grammar, tenses 326	
English knowledge test, example 157	IGNOU graduates, distance education 217–229
English tense diagnosis expert system (ET-DES)	IMS-learning design (IMS-LD) 295
331	IMS question & test interoperability (QTI) 176
ESL/EFL (English as second/foreign language) 325	India Gandhi National Open University (IGNOU)
ET-DES 331, 332, 335, 337, 340	217
ET-DES, evaluation 337	inhabited virtual learning worlds (IVLW) 342–355
eWorkbook 145	instance trees 90
eWorkbook, features 147	instructional videos, Semantic compression 77
eWorkbook architecture 154	intelligent agents, significance 346
EZ Presenter (EZP) 4	intelligent video detection agent (IVDA) 268
	interaction, non-computer based 269

Index

nano material 32 nano structure 32

NCP 101 interaction-based appropriation 299 interactive e-learning 274 non-computer based interaction 269 IVDA 268, 270, 272, 273, 277, 284, 285 number of connected points (NCP) 101 IVLW, empirical study 350 $\mathbf{0}$ IVLW significance 344 OAI 250, 265 K ODL 217, 218 on-line testing system 145-166 knowledge base (KB) 331 knowledge building 108 ontology-based e-learning scenario 63-71 ontology design and representation 67 L open and distance learning (ODL) 217 Open Archive Initiative (OAI) 250 latent semantic analysis (LSA) 106 LCMS 12, 14 learning companion 346 learning content management system (LCMS) 12 package interchange file (PIF) 42 learning environment, components 111 pedagogy-oriented design 120–133 learning management systems (LMS) 12, 42, 146, peer-to-peer e-learning 269 167, 359 pervasive learning environment 45 learning object discussion environment (LODE) pilot system 348 PRIME 196 128 learning object retrieval 100 problem LOs 125 learning objects (LOs) 120, 121 profile aware retrieval optimizer (PRIME) 196 learning objects (LOs), devising a typology 123 PROMETEUS 250 levels of articulation (LoA) 136 PTZ camera 274 levels of detail (LoD) 134 PTZ camera centering 282 LMS 12, 13, 14, 21, 22, 24, 146, 147, 163 PTZ camera control algorithms 276 LoA 136, 137 PTZ camera hardware 275 LODE 128, 129, 130, 131 Q LoD of human motions 136 LO repositories, pedagogical expertise 128 OMS 156 LOs, functional 123 QTICAM 176, 177, 178, 179, 180, 181, 182, 184, LOs, structured 123 185, 186 LSA 106, 107, 108, 110, 111, 112, 113, 115, 116, QTICAM implementation 181 117 QTI computer assisted marking (QTICAM) 176 LSA enhancements 115 QTI computer assisted marking specification 176 LSA performance 115 question management 147 question management subsystem (QMS) 156 \mathbf{M} question metadata 148 manual marker rubrics 177 R metadata 64, 65, 66 metadata for e-learning 65 real-time distance lecture system 2 mixed LOs 125 real-time storage function 5 MOODLE 167-173 restricted presentation applications (RPA) 193 MOODLE, web sites 171 retrieval optimization, memory's role 203 multiple choice questions (MCQ) 175 RPA 193, 195 run-time environment (RTE) 11, 14, 42 N

S two-dimensional free-form (irregular shapes) bin packing (2D-FBP) 201 Saafir architecture 307 typology of learning objects (LOs) 123 Saafir integration 312 SCORM 9, 10, 11, 12, 13, 14, 16, 21, 22, 23, 24, H 250, 263, 264 ubiquitous computing technologies, facilitating SCORM compliant courseware authoring tool education 231 40-62 ubiquitous computing technologies in education SCORM RTE 14 230-233 SCORM specification 42 ubiquitous learning 230 SCORM standard 13 UMS 156 semantic compression 74, 75, 76, 78, 79, 81, 83, Universal Description Discovery and Integration 84, 85 (UDDI) 11 Semantic compression of instructional videos 77 user management subsystem (UMS) 156 Semantic mapping 68 Semantic querying 67 \mathbf{V} sequencing and navigation model (SN) 42 simple object access protocol (SOAP) 11 vector space model (VSM) 89 streaming media (SM) 190, 191 virtual learning, constraints and benefits 241 structure-based appropriation 299 virtual university concept 249 structured LOs 123 virtual university design and integration 262 structured LOs, examples 125 voice-data keywords 6 structured LOs, types 124 VSM 89, 90 synchronization, evaluating 81 W synchronous e-learning 269 WBL 290, 291, 292, 293, 294, 298, 299, 303, 307, 308, 309, 319, 320 technology enhanced learning (TEL) 359 Web-based learning (WBL) systems 290 test authoring 158 Web-based learning curriculum 288-323 test management 149 web page representation model 89

Web Services 9, 10, 11, 12, 21, 22, 23, 24

what I see is what you see (WISIWYS) 73

WISIWYS 73

Web Services Description Language (WSDL) 11

test management subsystem (TMS) 157

test presentation 150

test visualization 153

TMS 157