Index

Symbols
2-D (two dimensional) 190
   interface 525
   model-based approaches 62
3-D (three dimensional)
   interface 525
   graphics 696
   rendering 693

A
AAC (see also assistive and augmentative communication)
AAS (see also attention-aware systems)
abduction 2
abductive inference 3
access 197
accessibility 318, 441
accountability 200
accumulated frame difference 61
acquisition-of-expertise (AOE) 312
activation activity 590
active 18
   graphical user interface 21
   interface 19
   learning 729
   processing assumption 649
activity
   analysis 542
   style 524
   vs. choice of interfaces 530
   -centered approaches 632
actor 542, 543
ad hoc 589
   networking 630
adaptation task 9
adaptivity and intelligence 106
ADL (see also advanced distributed learning)
ADRIADNE Foundation 70
advance organizers 518
advanced distributed learning (ADL) 70
advertising 717
AEQ (see also agent evaluation questionnaire)
aerial photographs 235
aesthetics of use 34
affinity diagramming 151
affordance 668
agency 472
agent 14, 334
   evaluation questionnaire (AEQ) 305
agile development methods 220
AI (see also artificial intelligence)
   air traffic control (ATC) 603
ambient
   intelligence (Aml) 121, 291, 631
   media 631
analysis 166, 549
analyst ability and analytical bias 656
analytic methods 661
anchoring 654
antecedents 268
anthropology 257
antisocial interaction 534
AOE (see also acquisition-of-expertise)
appearance-based
   approaches 62
   methods 61
art 31
artificial
   intelligence (AI) 19
   life 334
ASM 220
assistance 181, 182
assistive
   and augmentative communication (AAC) 296
   technology 295
asymmetric cryptography 290
ATC (see also air traffic control) 603
attention-aware systems (AAS) 38
attentive user interfaces 38
attraction 201
aural media 81
authentication 289
authenticity 429
automated reasoning 46
automatic methods 53
automatism processing 616
autonomous
agent interaction 334
agents 334
autonomy 199, 200
avatar 334
B
Bank of Jordan 242
basic usability concept 652
behavioral 151, 201
science principles 637
beneficence 199
benefit 201
best argument 409
between-
document cooperative browsing 122, 123
image cooperative browsing 125
page cooperative browsing 124
bibliometrics 54
blink rate 215
breakdown 430
bright-pupil effect 211
broadband 68
browsing 123
buddy group 348
C
CAD (see also computer drafting systems)
calmmess 200
Canadian Network for the Advancement of Research Industry and Education (CANARIE) 68
CANARIE (see also Canadian Network for the Advancement of Research Industry and Education)
Carmen’s bright ideas 303
cascading menus 623
CASE (computer-aided software engineering) 604
case-based
learning (CBL) 21
reasoning (CBR) 18, 21
CBIS 548
CBL (see also case-based learning)
CBR (see also case-based reasoning)
CCT (see also cultural cognition theory)
CGS (see also current goal states)
challenge systems 561
Chinese customers 139
CiteSpace 27
civic engagements 410
claims approach to requirements 321
CLGS (see also current learning goal states)
CLT (see also cognitive learning theory)
CMC (see also computer-mediated communication)
cognition 212
cognitive
activities 588
activity 590
affordance 670
artifacts 333
challenges 295
disabilities 295
dissonance 114
effort 313
learning theory (CLT) 79
load theory (CLT) 648
model 590
processes 212
psychology 257
science 494
task design (CTD) 583
tools 80
trapdoor games 290
walkthrough(s) 45, 641
work analysis 220
collaborative
community 12
filtering 13
technologies 442
working environments 699
-social-filtering systems 489
collecting
data to track attention 617

task data 580

collective competence 13
combinations of modalities 451
communication 105, 373
efficiency 526
preference (CP) 494
rights 562
communicative effectiveness and efficiency 652, 663
community 197, 473
competence 266
completeness 662
complex situations 339
compliance 287
computer
kids 288
science 494
technology(ies) 143, 312, 548
-aided
drafting (CAD) systems 236
Index

education environment 348
software engineering (see also CASE) 604
-based instruction 494
-mediated communication (CMC) 143, 373, 533
environment 144
human communications 143
-supported collaborative learning (CSCL) 105
cooporative work (CSCW) 257
-to-human communication 40
concept map 100
as cognitive tool 101
knowledge representation 100
conceptual model 113
concurrent task trees 220
certainty and evaluation 487
conflicting emotion detection 228
consistency 180, 181, 207
constructivist theory 731
content
   domain 717
   index metaphor 506
   separation 86
   -based-filtering systems 489
   -compression techniques 355
context 630
   and test methods 365
   -aware services 291, 630
   -dependent 268
contextual design 220
   inquiry 320
cooperative browsing 120
   of documents 123
   images 124
   Web pages 124
design 542
corneal-reflection/pupil-center method 211
correct rejections 669
cost
   effectiveness 652
   -justification 628
CP (see also communication preference)
creative linking 688
creativity 197
credence qualities 716
credibility 713
critical design 35
   practices 429
cryptography 290
CSBILE 311
CSCL (see also computer supported collaborative learning)
CSCW (see also computer-supported cooperative work)
CTD (see also cognitive task design) 583
cultural
   cognition theory (CCT) 610
   influences 375
   probes 431
   values 144
culture 136, 144, 374
current
   goal states (CGS) 591
   learning goal states (CLGS) 591
customer-buying process 486
cybercultural values 145
cyberlanguage 396
cyberspace 396, 471
cybertechnology 473

D
data 235
   analysis 222
   collection needs and effects 657
   gathering 222
   input 235
   manipulation and analysis 235
   mining 390
   output and display subsystem 235
   storage and retrieval 235
DDM (see also dynamic decision making)
decision-making 150
define task activity 590
delegation 288
demography 151
design 166, 197, 199, 494, 549
   analysis 150
   concept 545
   space 545
designers 627
desktop multimedia 451
detecting face 60
development 273
   methodologies 165
   of ISO standards 363
   phase viewpoint 603
   process 368
digital
   assets 171
   interactivity 686
   pen 463
   signatures 290
technologies 451
Index

text 396
digitizing 243
dimensions 151
disembodiment 471
disorientation 576
display duration effect 324
distance
  -learning (DL) 729
  tools (DLTs) 494
  -to-speed mapping 188
distributed
  user interface 120
  virtual learning environment 494
DL (see also distance-learning)
DLTs (see also distance-learning tools)
download time 180
downstream utility 652, 663
dual
  channel assumption 649
  task 673
  -coding theory of multimedia learning 575
durability 504
dynamic 9
  decision making (DDM) 311
  lists 622
  tasks 313
Dystopia 144

e-commerce (e-commerce) 486, 535, 548
e-learning 441
  environment 443
e-mail 559
ease of use 197
easy scanning 180, 181
EC (see also European Commission)
EDF (see also experience design framework) 150
editor for
  composite semantic learning objects 506
  educational resources 506
education 175, 197, 626
educational hypermedia 649
EduSource 70
effective security 287
effectiveness of graphic organizers 575
effectors 151
elasticaudio slider 356, 358
  interfaces 187, 357
electronic

Electronic Communications and Transactions Bill 262
elicitaton design 222
emerging trend detection (ETD) 274
emotion(s) 197, 227, 303, 325
  extraction engine 228
  icons 324
  presentation 326
  visualization 227
emotional
  abductive inference 5
  attraction 201
  benefit 201
  design 31
  engagement 201
  involvement 303
  usability 266
  -interface design 326
empathy 151, 303
emphasizes 267
empirical 151
  methods 661
engagability 196, 197
  research 196
engagement 201, 686
enterprise workforce productivity 627
environment design 335
environmental
  problems 249
  sustainability 200
EQ types 496
eronomic keyboards 92
ergonomics 494
error
  prevention 180, 181
  recovery 180, 181
erudite agent 15
ES types 496
ESA (see also European Space Agency)
ESRI 236
ESPRFs (see also extended structured problem report formats)
esentialism 374
ETD (see also emerging trend detection)
ethics 200
ethnographic techniques 446
ethnography 151, 542
European
  Commission (EC) 699
  Space Agency (ESA) 699
evaluating 151
Index

evaluation 431
effects 655
framework for e-learning 446
evaluative judgments 716
event enhancer 702
experience
design framework (EDF) 150
diaries 151
qualities 716
credibility 714
experiential learning 732
explicit 488
exploration 151
of space 526
expression 430
intensity 324
extended structured problem report formats (ESPRFs) 644
exTensible Markup Language (XML) 171
eye
contact 526
gaze input 95
movements 212
tracker 211
tracking 211
-mind hypothesis 212
-movement metrics 214
EyeToy 695

F

face
-to-face encounter 373
detection 60
facial
actions 60
features 60
expression 452
analysis 60
facilitators 731
factors affecting Web credibility 717
false
affordance 669
prophet 656
falsification testing 644
FearNot 305
feature-invariant approaches 61
level architectures 452
feedback 312, 686
bias 653
feelings-as-information 268
Feelix 303
fidelity 199
field studies 544
filtering 13, 559
mechanisms 714
FineSlider 190
finger tapping 673
fixations 214
flexibility 88, 139, 452
flow 512
Flowcharts 206
focus group(s) 151, 320
formal description technique 604
formative evaluation 661
formulate Procedure activity 590
frames 453
free and equal discussion 409
freedom from bias 200
functional 267
affordance 670
model 114
functionality 197, 335
funding 70
Fuzzy
data calculation 230
logic 228
membership functions 230

G

Gamecube 696
gaze 212
gaze tracking 40
gender 306
differences 733
vs. the Choice of Interface 530
general requirements 543
genotypes 34
geographic senses 526
geographical information systems (GIS) 234, 242
applications 237
data layers 235
GeoMedia 237
software 242
geospatial data layers 247
gesture 464
GIS (see also geographical information systems)
global village 373, 396
goal
states (GS) 591
goals of CSCL 105
GPS 634
graphic organizers 576
graphical user interface (GUI) 19, 187, 248, 317, 463, 622
grid computing 69
Index

GS (see also goal states)
guide activity 150
GUI (see also graphical user interface)

H
hackers 288
handset manufacturers 634
haptic output 451
hardware 235, 548
   interface 367
HCI (see also human computer interaction)
head-motion transducers 94
health 197
healthcare 457
hedonic 269
heuristic
   evaluation 45, 641
   walkthrough 642
hidden affordance 669
high-
   impact user interfaces 628
   level reasoning 338
   quality usability data 652, 661
highly usable user interface 627
history of eye tracking 211
holist approaches 62
HTML Syntax Checking 54
human
   attention 40
   communications 85
   factors 273
   factors 637
   interaction 495
   machine system localization 136
   memory system 648
   sociability style 524
   welfare 200
   -agent communication 227
   -centered
      technologies 542
      design 150
      -computer interaction (HCI) 5, 53, 60, 69, 88, 151, 165, 196, 200, 205, 266, 287, 313, 330, 362, 373, 494, 550, 581, 609, 627
      advocates 550
      design 634
      in SA 263
      research 39
      standards 363
      -focused life cycle methodologies 166
      -friendly interface 588
      -human
      communication 227
interaction 143
   -to-human communication 89
hybrid
   approaches 62
   cooperative environments 548
HyCo 504
   authoring tool 505
HYLOS 505
hypermedia 574
   systems 505
hypertext 518, 687
   composer 504
I
I-MINDS 348, 349
icon 366, 622
   functions 366
   symbols 366
iconic environments 298
ICTs (see also Internet communication technologies)
IDEF 220
identify activity 590
identifying tasks 580
identity 197, 200, 473, 717
ideo-pleasure 201
IEC (see also International Electrotechnical Commission)
II (see also information interaction)
ILE (see also interaction learning environments)
ILMDA (see also intelligent learning material delivery agent)
image
   -based approach 62
   -sequence-based approach 61
immersion 512, 686
impact 652, 663
impairments 295
implementation 166, 549
implicit 172, 488
   knowledge 172
indexed menu 623
indirect data 654
individual
   competence 13
   differences 717, 733
   skills 574
   individualized learning 731
   infancy 715
   information and computer sciences 257
   information environment 333
   information interaction (II) 332
   information needs 338
   information technology (IT) 680
Index

information-processing capacities 313
information-rich sites 338
information-system levels 533
informed consent 200
InkML 466
instrumental 267
integrated
  home computing 548
  information 338
  usability 550
integration 425, 549
intelligent
  e-learning system 443
  learning material delivery agent (ILMDA) 18
  tutoring system (ITS) 18, 348, 349
intensity experiment 326
interaction 332, 688
  among peers 699
  design 165, 335, 424, 550
  style viewpoint 603
  jewelry 34
  learning environments (ILE) 348, 349
  prototyping 605
interactive
  space 688
  systems design 545
intercultural engineering 136
interface 1, 530
  agent 15, 467
  design 3, 376
intergraph 236
International Electrotechnical Commission (IEC) 363
International Organisation for Standardisation 363
Internet 175
  communication technologies (ICTs) 373, 471
  architecture 538
  -mediated intercultural communication 373
interoperability 504
interpret activity 590
interruptability 631
interruptions 40
interview 138, 320
intuitive 208
  interactive model 497
inverted pyramid style 180, 181
involuntary attention 617
IQ types 496
IRIS intermedia 505
IS types 496
isometric devices 93
IT (see also information technology)
  iterative development 426
ITS (see also intelligent tutoring system)
iTV 635

J
JANET (joint academic network) 176
  joint academic network (see also JANET)
  Jordanian transverse mercator (JTM) 243
joypad games controllers 692
joystick 93
justice 199

K
key
  guards 93
  player problem 26
keyboard 92
Kleinberg algorithm 55
KNAS (see also knowledgeable navigational assistance system)
knowledge
  base 14
  diffusion 25
  engineering 542
  map 100
  -based method 61
knowledgeable navigational assistance system (KNAS) 390

L
laddering 151
landmark 389
landmark graphics 236
landmark knowledge 389
language 180, 261, 396
  board 261
  of cyberspace 396
LCD (see also liquid crystal display)
learner-centered 734
learning 731
  environment 734
  goal 312
  states (LGS) 591
  laboratories 311
  object 69
  repository 69
  styles (LS) 79, 494
  technology standards or specifications 504
legitimate
  communication 561
  interaction 535
lexical modifications 605
LGS (see also learning goal states)
limited-capacity processing system 673
lingua franca 396
link
  analysis 54
  authoring 688
liquid crystal display (LCD) 25
literacy 398
local approaches 62
location 630
  paradigm 631
  sensing 631
  status 181
low-impact user interfaces 627
LS (see also learning styles)
LSI 56
ludic 267

M
machine learning 13
mainland China 140
maintenance phase and retirement 549
manageability 504
management flight simulators 311
managerial decision making 311
MapInfo 236
Mario Sunshine 693
market research 151
MAS (see also multi-agent system)
master device 121
materiality 430
meaning 430
  making 429
meaningfulness 212
memory 80, 649
mental
  imagery 212
  model 113, 313, 519
mentor 683
  program 681
menus 622
message
  board 700
  persuasiveness 713
method 235, 543
  scope 654
MGES (see also modular GIS environments)
microdesign 636
microworlds 311
MMO (see also multimedia object)
MMS (see also multimedia messaging services)
mobile
  applications 700
  communication 635
  entertainment community 699
  environment 120
  phones 635
  technology 681
MOBilelearn 542
modal model of memory 648
modality 451
model 113
  specification 223
modular GIS environments (MGEs) 237
monitor
  knowledge state 593
  learning plan 593
monolithic systems 505
mood 228
mood
  selection 231
    component 229
moral
  mediator 408
    responsibility of design 199
motion 389
motor impairments 92, 317
mouse 93
  -over events 618
movement
  plus talk 527
  senses 526
moving image contour 61
multi
  -agent system (MAS) 13, 348
  -channel identity 635
  -lingual society 263
  -platform architecture 638
  -scale timeline slider 189
multimedia
  channels 523
  information 13
  messaging services (MMS) 680
  object (MMO) 171
multimodal
  discourse 686
  interaction 441, 451
multimode
  chat 701
  mail 702
multiple
  displays 121
  -resource theory 616
muscle-based approach 63
mutual disambiguation 452
Index

N
National Science Foundation Network (NSFNET) 176
navigation 389
negotiation 487
network
  of credibility 718
  operators 634
  visualization 26
networking 176
neurolinguistic programming (NLP) 496
  language patterns 494
new literacy studies (NLS) 398
NLP (see also neurolinguistic programming)
NLS (see also new literacy studies)
Nokia 634
non
  -empirical 151
  -instrumental 267
  -linearities 311
  -malefiance 199
notification systems 40
NSFNET (see also National Science Foundation
  Network)

O
object-oriented (OO)
  analysis 166, 549
  development approach 165, 548
  design 542, 549
  methodologies 166
  programming 166, 549
observation 151
observe activity 590
one-size-fits-all approach 88
online
  intercultural communication 373
  legitimacy 536
ontology 14
  -aware system 595
OO (see also object-oriented)
open-ended problem solving 338
operability 197
organization 70, 197
organizational
  decisions 314
  programs 446
  psychology 257
ownership 200

P
page and navigation structure 56
PageMaker 701
PageRank 55
Pan South African language board 261
paradigm shift 24
participation 151
particular 268
passive 18
password 289
past experience 207
PDA (see also personal digital assistant)
PDINAMET 9
pen-based interface 463
people 235
people
  -related issues 442
  -system interaction 444
perceived affordance 668
perceptible affordance 669
perceptual
  illusions 209
  user interface (PUI) 463
perceptually oriented decision heuristics 314
performance elicitation 313
personal
  and health social education (PHSE) 304
  digital assistant (PDA) 120, 205, 457, 463,
  637
  technology 459
  growth/competence 267, 269
  identification number (PIN) 289
personalized learning environments (PLEs) 734
personality types 494
pervasive computing 631
phenomenology 32
philosophical issues 199
PHSE (see also personal and health social education)
physical
  (face-to-face) encounters 373
  affordance 670
physical
  challenges 295
  disabilities 295
  impairments 92
  interface 694
  Physio-pleasure 201
physiology 197
Picola project 409
PIN (see also personal identification number)
planning 166, 549
play 686
Playstation 696
PLEs (see also personalized learning environments)
pleasure principle 686
pocket PCs 459, 635
point-of-regard 211
<table>
<thead>
<tr>
<th>Term</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pong</td>
<td>693</td>
</tr>
<tr>
<td>population stereotypes</td>
<td>206</td>
</tr>
<tr>
<td>postmodern</td>
<td>144</td>
</tr>
<tr>
<td>potential attackers</td>
<td>288</td>
</tr>
<tr>
<td>pragmatic</td>
<td>31, 267</td>
</tr>
<tr>
<td>pragmatism</td>
<td>31, 429</td>
</tr>
<tr>
<td>predictive judgments</td>
<td>716</td>
</tr>
<tr>
<td>presence determinants</td>
<td>512</td>
</tr>
<tr>
<td>pretransmission filtering</td>
<td>559</td>
</tr>
<tr>
<td>primary task performance</td>
<td>675</td>
</tr>
<tr>
<td>print-text-based environment</td>
<td>398</td>
</tr>
<tr>
<td>prior knowledge</td>
<td>313, 519, 733</td>
</tr>
<tr>
<td>privacy</td>
<td>200, 288</td>
</tr>
<tr>
<td>proactive computing</td>
<td>631</td>
</tr>
<tr>
<td>/adaptive systems</td>
<td>39</td>
</tr>
<tr>
<td>problem solving</td>
<td>212, 588</td>
</tr>
<tr>
<td>-solving oriented learning</td>
<td>589, 591</td>
</tr>
<tr>
<td>-process plans</td>
<td>591</td>
</tr>
<tr>
<td>probology</td>
<td>431</td>
</tr>
<tr>
<td>procedural knowledge</td>
<td>389</td>
</tr>
<tr>
<td>process bias</td>
<td>656</td>
</tr>
<tr>
<td>processing layer</td>
<td>14</td>
</tr>
<tr>
<td>product brokering</td>
<td>487</td>
</tr>
<tr>
<td>design</td>
<td>151</td>
</tr>
<tr>
<td>localization</td>
<td>140</td>
</tr>
<tr>
<td>profiles</td>
<td>9</td>
</tr>
<tr>
<td>project</td>
<td>543</td>
</tr>
<tr>
<td>prominence interpretation</td>
<td>716</td>
</tr>
<tr>
<td>theory</td>
<td></td>
</tr>
<tr>
<td>proper printing</td>
<td>180, 181</td>
</tr>
<tr>
<td>property</td>
<td>200</td>
</tr>
<tr>
<td>ProSpeckz</td>
<td>34</td>
</tr>
<tr>
<td>prototypic expertise</td>
<td>312</td>
</tr>
<tr>
<td>prototyping</td>
<td>604</td>
</tr>
<tr>
<td>PSOL (see also problem-solving oriented learning)</td>
<td></td>
</tr>
<tr>
<td>psycho-pleasure</td>
<td>201</td>
</tr>
<tr>
<td>psychology</td>
<td>86, 151, 494</td>
</tr>
<tr>
<td>public key infrastructure</td>
<td>290</td>
</tr>
<tr>
<td>knowledge</td>
<td>69</td>
</tr>
<tr>
<td>PUI (see also perceptual user interface)</td>
<td></td>
</tr>
<tr>
<td>pull-down menu</td>
<td>463, 622</td>
</tr>
<tr>
<td>pupil size</td>
<td>215</td>
</tr>
<tr>
<td>qualitative data</td>
<td>220</td>
</tr>
<tr>
<td>quality</td>
<td>151</td>
</tr>
<tr>
<td>(usability)</td>
<td>46</td>
</tr>
<tr>
<td>in use</td>
<td>362</td>
</tr>
<tr>
<td>indicator</td>
<td>55</td>
</tr>
<tr>
<td>of service</td>
<td>444</td>
</tr>
<tr>
<td>of text</td>
<td>56</td>
</tr>
<tr>
<td>question-and-answer formats</td>
<td>622</td>
</tr>
<tr>
<td>questionnaire</td>
<td>138, 151, 320</td>
</tr>
<tr>
<td>R</td>
<td></td>
</tr>
<tr>
<td>radio frequency identification transmitters (RFID)</td>
<td>291</td>
</tr>
<tr>
<td>Rasmussen’s cognitive model</td>
<td>590</td>
</tr>
<tr>
<td>RDF (see also resource definition framework)</td>
<td></td>
</tr>
<tr>
<td>reaction time (RT)</td>
<td>675</td>
</tr>
<tr>
<td>reactivity</td>
<td>348</td>
</tr>
<tr>
<td>reader mode</td>
<td>505</td>
</tr>
<tr>
<td>real</td>
<td></td>
</tr>
<tr>
<td>affordance</td>
<td>668</td>
</tr>
<tr>
<td>and virtual experience</td>
<td>197</td>
</tr>
<tr>
<td>system deficiencies (validity)</td>
<td>652</td>
</tr>
<tr>
<td>-time feedback</td>
<td>457</td>
</tr>
<tr>
<td>-world knowledge</td>
<td>228</td>
</tr>
<tr>
<td>reasoning</td>
<td>212</td>
</tr>
<tr>
<td>recommender system</td>
<td>13, 486</td>
</tr>
<tr>
<td>reference monitor</td>
<td>290</td>
</tr>
<tr>
<td>reflective</td>
<td>151, 201</td>
</tr>
<tr>
<td>registration techniques</td>
<td>243</td>
</tr>
<tr>
<td>reliability</td>
<td>652</td>
</tr>
<tr>
<td>and representativeness</td>
<td>662</td>
</tr>
<tr>
<td>of results viewpoint</td>
<td>604</td>
</tr>
<tr>
<td>representational approach</td>
<td>631</td>
</tr>
<tr>
<td>representativeness</td>
<td>652</td>
</tr>
<tr>
<td>reputed credibility</td>
<td>714</td>
</tr>
<tr>
<td>requirement of identification</td>
<td>487</td>
</tr>
<tr>
<td>requirements</td>
<td></td>
</tr>
<tr>
<td>engineering</td>
<td>425</td>
</tr>
<tr>
<td>gathering</td>
<td>549</td>
</tr>
<tr>
<td>specification</td>
<td>220</td>
</tr>
<tr>
<td>research fronts</td>
<td>25</td>
</tr>
<tr>
<td>literature</td>
<td>55</td>
</tr>
<tr>
<td>projects</td>
<td>628</td>
</tr>
<tr>
<td>resource definition framework (RDF)</td>
<td>171</td>
</tr>
<tr>
<td>response</td>
<td>686</td>
</tr>
<tr>
<td>retrieval and management facilities</td>
<td>507</td>
</tr>
<tr>
<td>return on investment (ROI)</td>
<td>628</td>
</tr>
<tr>
<td>RFID (see also radio frequency identification transmitters)</td>
<td></td>
</tr>
<tr>
<td>robot</td>
<td>303</td>
</tr>
<tr>
<td>ROI (see also return on investment)</td>
<td></td>
</tr>
<tr>
<td>roles</td>
<td>543</td>
</tr>
<tr>
<td>RT (see also reaction time)</td>
<td></td>
</tr>
<tr>
<td>rubber-band metaphor</td>
<td>187, 357</td>
</tr>
<tr>
<td>rule-based method</td>
<td>63</td>
</tr>
<tr>
<td>S</td>
<td></td>
</tr>
<tr>
<td>SBD (see also scenario-based design)</td>
<td>220</td>
</tr>
<tr>
<td>Index</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>saccades 214</td>
<td></td>
</tr>
<tr>
<td>SADT 220</td>
<td></td>
</tr>
<tr>
<td>safety-critical</td>
<td></td>
</tr>
<tr>
<td>case study 604</td>
<td></td>
</tr>
<tr>
<td>systems 603</td>
<td></td>
</tr>
<tr>
<td>satellite communications 69</td>
<td></td>
</tr>
<tr>
<td>scaling 188</td>
<td></td>
</tr>
<tr>
<td>scanning 243</td>
<td></td>
</tr>
<tr>
<td>scanpath 214</td>
<td></td>
</tr>
<tr>
<td>scenario-based design (SBD) 220</td>
<td></td>
</tr>
<tr>
<td>SCI (see also Science Citation Index)</td>
<td></td>
</tr>
<tr>
<td>Science Citation Index (SCI) 25</td>
<td></td>
</tr>
<tr>
<td>scientific revolutions 24</td>
<td></td>
</tr>
<tr>
<td>SDLCs (see also software developments life cycles)</td>
<td></td>
</tr>
<tr>
<td>SE (see also software engineering)</td>
<td></td>
</tr>
<tr>
<td>search</td>
<td></td>
</tr>
<tr>
<td>qualities 716</td>
<td></td>
</tr>
<tr>
<td>strategies 212</td>
<td></td>
</tr>
<tr>
<td>secondary task</td>
<td></td>
</tr>
<tr>
<td>measures 676</td>
<td></td>
</tr>
<tr>
<td>methods 675</td>
<td></td>
</tr>
<tr>
<td>task technique 673</td>
<td></td>
</tr>
<tr>
<td>security 287</td>
<td></td>
</tr>
<tr>
<td>selecting-organizing-integrating theory of active 649</td>
<td></td>
</tr>
<tr>
<td>selective</td>
<td></td>
</tr>
<tr>
<td>attention 617</td>
<td></td>
</tr>
<tr>
<td>feedback 653</td>
<td></td>
</tr>
<tr>
<td>self</td>
<td></td>
</tr>
<tr>
<td>-defined user interface 139</td>
<td></td>
</tr>
<tr>
<td>-expression/relatedness 269</td>
<td></td>
</tr>
<tr>
<td>-modeling 115</td>
<td></td>
</tr>
<tr>
<td>semantic</td>
<td></td>
</tr>
<tr>
<td>learning objects (SLO) 504</td>
<td></td>
</tr>
<tr>
<td>-level architectures 452</td>
<td></td>
</tr>
<tr>
<td>semiotic 86</td>
<td></td>
</tr>
<tr>
<td>system 396</td>
<td></td>
</tr>
<tr>
<td>sensors 630</td>
<td></td>
</tr>
<tr>
<td>sensory affordance 670</td>
<td></td>
</tr>
<tr>
<td>severity 652, 663</td>
<td></td>
</tr>
<tr>
<td>sharing knowledge 700</td>
<td></td>
</tr>
<tr>
<td>SHEIK</td>
<td></td>
</tr>
<tr>
<td>-architecture 14</td>
<td></td>
</tr>
<tr>
<td>-behavior 15</td>
<td></td>
</tr>
<tr>
<td>-system 15</td>
<td></td>
</tr>
<tr>
<td>short download time 180</td>
<td></td>
</tr>
<tr>
<td>similarity 304</td>
<td></td>
</tr>
<tr>
<td>simulation 686</td>
<td></td>
</tr>
<tr>
<td>-effects 655</td>
<td></td>
</tr>
<tr>
<td>-tools 312</td>
<td></td>
</tr>
<tr>
<td>single</td>
<td></td>
</tr>
<tr>
<td>-channel</td>
<td></td>
</tr>
<tr>
<td>hypothesis 615</td>
<td></td>
</tr>
<tr>
<td>-serial transmission 674</td>
<td></td>
</tr>
<tr>
<td>site maps 518</td>
<td></td>
</tr>
<tr>
<td>situation awareness 213</td>
<td></td>
</tr>
<tr>
<td>situational context 341</td>
<td></td>
</tr>
<tr>
<td>skill-set 626</td>
<td></td>
</tr>
<tr>
<td>skilled processing 616</td>
<td></td>
</tr>
<tr>
<td>slave device 121</td>
<td></td>
</tr>
<tr>
<td>slider 188</td>
<td></td>
</tr>
<tr>
<td>SLO (see also semantic learning objects)</td>
<td></td>
</tr>
<tr>
<td>small form factors 121</td>
<td></td>
</tr>
<tr>
<td>small, medium and micro enterprises (SMMEs) 262</td>
<td></td>
</tr>
<tr>
<td>smart houses 296</td>
<td></td>
</tr>
<tr>
<td>Smartphone 120</td>
<td></td>
</tr>
<tr>
<td>SMMEs (see also small, medium and micro enterprises)</td>
<td></td>
</tr>
<tr>
<td>sniplet model 171</td>
<td></td>
</tr>
<tr>
<td>sociability and activity style experiment 528</td>
<td></td>
</tr>
<tr>
<td>sociability 530</td>
<td></td>
</tr>
<tr>
<td>social</td>
<td></td>
</tr>
<tr>
<td>-ability 348</td>
<td></td>
</tr>
<tr>
<td>-construction 375</td>
<td></td>
</tr>
<tr>
<td>-context 105, 334</td>
<td></td>
</tr>
<tr>
<td>-engineering 288</td>
<td></td>
</tr>
<tr>
<td>-interaction 105, 542</td>
<td></td>
</tr>
<tr>
<td>-network analysis 26</td>
<td></td>
</tr>
<tr>
<td>-presence 524</td>
<td></td>
</tr>
<tr>
<td>-processes 105</td>
<td></td>
</tr>
<tr>
<td>-psychology 257</td>
<td></td>
</tr>
<tr>
<td>-science 631</td>
<td></td>
</tr>
<tr>
<td>-synergy 534</td>
<td></td>
</tr>
<tr>
<td>-attraction feeling 527</td>
<td></td>
</tr>
<tr>
<td>-technical gap 533</td>
<td></td>
</tr>
<tr>
<td>socio</td>
<td></td>
</tr>
<tr>
<td>-cognitive engineering 542</td>
<td></td>
</tr>
<tr>
<td>-pleasure 201</td>
<td></td>
</tr>
<tr>
<td>-technical systems 542</td>
<td></td>
</tr>
<tr>
<td>sociology 257, 494</td>
<td></td>
</tr>
<tr>
<td>soft systems 542</td>
<td></td>
</tr>
<tr>
<td>software 235, 548</td>
<td></td>
</tr>
<tr>
<td>-applications 626</td>
<td></td>
</tr>
<tr>
<td>-architectures 452</td>
<td></td>
</tr>
<tr>
<td>-developments life cycles (SDLCs) 168</td>
<td></td>
</tr>
<tr>
<td>-engineering (SE) 422, 494, 548</td>
<td></td>
</tr>
<tr>
<td>-interaction 365</td>
<td></td>
</tr>
<tr>
<td>-interface 365</td>
<td></td>
</tr>
<tr>
<td>-testing 54</td>
<td></td>
</tr>
<tr>
<td>source ambiguity 715</td>
<td></td>
</tr>
<tr>
<td>South Africa 261</td>
<td></td>
</tr>
<tr>
<td>Spacewar 692</td>
<td></td>
</tr>
<tr>
<td>spam 559</td>
<td></td>
</tr>
<tr>
<td>spatial</td>
<td></td>
</tr>
<tr>
<td>-abductive inference 4</td>
<td></td>
</tr>
<tr>
<td>-knowledge 389</td>
<td></td>
</tr>
<tr>
<td>-space-based approach 62</td>
<td></td>
</tr>
<tr>
<td>-trajectory-based approach 62</td>
<td></td>
</tr>
<tr>
<td>-spatiotemporal trajectory-based approach 62</td>
<td></td>
</tr>
</tbody>
</table>
speech 396
- recognition systems 95
- skimming 355
SpeechSkimmer 355
SPOT image 243
STA (see also systemic task analysis) 583
static 9
- decision theory 311
- image-based approach 61
statistic-based method 63
statistical analyses 321
stereotypes 9, 206, 654
stigmergy 1
stimulus 655
storage 231
storyboarding 151
storyspace 505
structural model 114
student agent 348
subcultures 145
subliminal text messaging 494
summative evaluation 661
Super Mario World 3 693
support 452
- interaction 106
surface credibility 714
survey knowledge 390
switch Input 94
synchronous 144
syntactic modifications 606
syntax-checking programs 54
synthetic 488
system
- dynamics 311
- image 545
- levels 533
- usability 661
systemic task analysis (STA) 583
systems design 542

t

- selection approach 580
- transparency 313
- action mapping model 114
- oriented tools 429
Taylorism 579
TDT (see also topic detection and tracking) 274
teacher agent 350
teaching styles 494
technical experience 12
technological
- advances 196
- factors 512
technology
- design 146
- based education 441
telecommunication 68
teleconferencing 457
telemedicine 457
telepresence 512
template-matching methods 61
temporal sphere of influence 466
test material 140
testing 151
text 396
- coding 139
theoretical 332
- security 287
third-party guarantees 560
three-dimensional (3-D) interface 523
time
- compressed 355
- delays 311
- expanded 355
- stretching 355
- dependent media 187
tool 31, 543
topic
- detection and tracking (TDT) 274
- maps 102
topical interaction 634
touch pad 94
trace 464
Trackball 93
tracking techniques 273
traditional menu 622
traditional systems 166, 548
transparency 31, 332
transparent
- interface 430
- systems 39
trend 273
t- detection 273
triangulation 117
trust 200
Index

tutor-centered 734
two
- dimensional (2-D) 190
  (2-D) chat room 523
- level browsing scheme 122

U
ubiquitous
  computing 31, 332, 454, 630
  Internet environments 634
UCD (see also user-centered design)
UEMs (see also usability evaluation methods)
UIM (see also usability inspection method)
UML 220
uncertainty 311
undifferentiated-capacity hypothesis 615
universal usability 200
unsolicited e-mail 559
untapped potential 656
usability 112, 199, 365, 422, 441, 490, 652, 626, 642
  awareness 423
  capability of the organization 368
  data collection concepts 661
  quality research 661
  deficiencies 652
  engineering 626
  evaluation 46, 494
  methods (UEMs) 652, 661
  firms 626
  inspection method (UIM) 641
  process assessment 665
  work 661
- testing 627
user
ability 653
attitude 287
characteristics 513
data 320, 488
engineering 546
goals 338
interface 139, 630, 692
language 45
memory load 45
models 321
motivation 653, 718
observation 320
profiles 320
requirement analysis 136
sampling 318
- centered
  approach 287
design (UCD) 150, 263, 542, 661
- centric system 588
- oriented design 140
- performance 627
- Web interaction 610
utilitarian 267
Utopia 144

V
validation 223
validity 642, 662
VDM 220
vector model 236
video game industry 692
videoconferencing 635
virtual
  (learning) environments (VLEs) 373
  classroom 349
  environments 389
  ethnicity 471
  experience 197
  identity 471
  Me framework 170
  space 634
  virtually Friends 305
visceral 151, 201, 268
visibility 212
  of Location 179
visual attention 40
data browsing 187
design 717
dimension 3
distractions 216
interfaces 693
speech recognition 452
VLEs (see also virtual learning environments)
Vodafone 634
voluntary
  attention 616
  engagement 196
VR 334

W
W3C 466
WAP (see also wireless application protocol)
wayfinding 389
WBI (see also Web instruction)
wear-down 324
wearable computing 631
Web
  credibility research 713
  - based
    applications 444
    education 106
educational systems (WES) 8
instruction (WBI) 729
systems 729
tool 409
well-being 197
WES (see also Web educational systems)
Western ethical tradition 199
wireless
  application protocol 699
data transmission 635
network 69
networking 630
  technologies 143
WISDeM 497
within
  -document cooperative browsing 123
  -image cooperative browsing 124
  -page cooperative browsing 124
working memory 648
World Wide Web 175

X

Xbox 696
XML (see also eXtensible Markup Language)