Index

A
API, 290
Asset manager
declaration, 206
dispatch events, 208
EventDispatcher class, 205
events, 207
getAsset method, 209
Load Manifest, 208
on method, 208
preloadAssets method, 207
properties, 207
Asteroids
AssetManager class, 210
class, 212
explode method, 213
exploding asteroids game
AssetManager events, 213
click event, 217
game code, 217
game variables and init function, 213
preloader component, 214
sprite sheet and start
menu creation, 215
startGame function, 215
features, 209
setup, game files, 210

B
BattlePanel class
action buttons, 351, 358
custom events, 360
initialize method, 351
onAttackButtonSelected method, 353
properties, 350
update functions, 354

Bitmaps
clipping, 85
effects
Blur, 80
ColorFilter, 81
Drop Shadow effect, 79
EaseJS, 79
filters, 80
mask property, 83
stage
Image object, 78
semi-transparent, 77
using PreloadJS, 78
Boolean variable, 221

C
Containers, 94
animation, 96
class, 233
custom events, 360
clone method, 97
group object, 95
with shapes, bitmaps and text, 96
with various display objects, 95

D
DOM, 154

E
EaseJS, 177
extension
black boxed, 182
code template, 180
constructor function, 180
initialize function, 181
Orb class, 181
EaseJS (cont.)
  inheritance (see Inheritance)
  Running Man application
    HTML document setup, 194
    preload function, 197
    Runner sprite, 195
    runningMan.js code, 200
    sprite sheet and button, setup, 198
  Sprite class
    custom sprites, 193
    extension, 192
  UI components
    preloader, 190
    reusable buttons, 185
  EventDispatcher class, 206

Fakezee
  buildScoreBoard Function, 151–152
  categories, 138
  complete state, 137
  game code
    Building Scorecard Buttons, 142
    CreateJS objects, 142
    declaration, 141
    init function, 142
    initGame function, 143
    low action and turn-based, 143
    scorecardButtonKeys, 142
    setUpSpritesheet function, 143
    stage and preload setup, 143
  game elements (see Game elements)
  initializing
    bounce effect, 146
    buildDiceTray Function, 146
    buildScoreCard function, 148–150
    buildTitle function, 144
    dice tray, 144–145
    event listener, 147
    getBounds method, 144
    handler function, 150
    holding dice, 147
    mouseEnabled property, 146
    multiple frames, 149
    onScoreCardBtnClick function, 151
    roll button, 147
    scoreboard, 151
    six frames, 146
    visual properties, 149
    xPos value, 147, 150
    yPos values, 150
  procedures, 137
  rules, 138
  setting up the project files
    CreateJS library files, 139
    index.html, 139
  sprite sheet files
    JSON files, 140
    preload process, 140
    Sprite Sheet Data, 140
    Sprite Sheet Image, 139–140
  text-creating function, 152
  three rolls, 139
  Font bitmapping
    BitmapText class, 117
    font sprite sheet
      bitmap text, 120
      data conversion, XML, 118
      Export PNG Sequence, 120
      Flash timeline, 119
      Glyph Designer, 118
      update method, 121

Game creation
  building render functions
    Game Sprites, 272
    score board updation, 273
  building update functions
    Hero and Enemy Bullets, 271
    Hero and Enemy Ships, 269
    star field updation, 269
  check functions
    collisions, 275
    enemy spawns, attacks, 275
    game checking, 277
    hero should die, 277
    lastFired property, 275
  controls setting, 266
  initialization, 265
  loop
    delta property, 268
    run method, 268
    update and render functions, 269
  sprites
    buildSprites method, 266
    buildStars, 266
    game sprite object pools, 265
    game variables declaration, 263
    Pixel-Perfect Collision, 274
    setTimeout function, 274
  spawn functions
    enemy ships, bullets and explosion, 273
    spawnEnemyExplosion, 274

Game elements
  bounce effect, 156
  categories, 159
code and functions, 153
diceValues, 158
enableDice and holdDie functions, 159
evalGame Function, 163
fade-in-and-slide-down effect, 156
gameOver Function, 164
holdDie function, 159
holding dice, 158
initGame, 155, 165
leaves room, 160
loop iterator value, 155
multiple frames, 160
onScoreCardBtnClick, 160
resetDiceTray function, 163
revealGame function, 154
revealScoreBoard Function, 156
revealTitle and revealDiceTray functions, 155
roll button, 158
rollDice Function, 157
rollsLeft game, 163
scoreCard Function, 156
scoring functions (see Scoring functions)
stopDice function, 158
updateScore Function, 161
updateScoreboard function, 162
Game project
game creation (see Game creation)
heads-up display (HUD) (see HUD)
Object Pools usage
custom class, 257
getSprite method, 258
returnSprite method, 258
SpritePool Class, 257
scenes creation
game menu scene, 258
game over scene, 261
game scene, 260
setTimeout method, 261
Space hero (see Space hero)
Sprites creation (see Sprites creation)
Graphics animation. See UI elements
drawscript, illustrator
anchor shape, 22
code generation, 21
graphics object, 22
tiny API cheat sheet, 21
web site, 20
graphics class, 17
graphics methods, 17
shapes (see Square rotation, tweening methods)
circle shape, 19
definition, 17
getRGB static method, 18
HTML Canvas element, 18
moveTo method, 20
rectangle shape, 18
rounded rectangle shape, 19
square shape, 18
star shape, 19
triangle shape, 19
stage
stage set up, 15
ticker set up, 16
update method, 15

H

HTML, 225
HUD
Health Meter creation
animated sprite, 252
buildMeter function, 254
checkHealth function, 254
HealthMeter Class, 252
HealthMeter sprite, 252
maxDamage property, 253–254
SpriteSheet object, 254
Life Box creation
LifeBox Class, 256
LifeBox container, 257
numLives, 257
positionBox function, 257
Scoreboard creation
addLeadingZeros method, 255
BitmapText object, 254
Scoreboard class, 255
Sprite frame review, 251

I

Inheritance
DisplayObject class, 177
online documentation, 177
pulsing orbs
canvas element, 182
HTML file, 182
keyboard listener, 184
PulsingOrb class, 182
PulsingOrb.prototype, 183
pulsingOrbs script, 183
spawn function, 180
super class/base class, 177
Init function, 27, 36, 47

J

JavaScript, 165
K, L
Keyboard events
  arrow keys
    Game Paddle, 42
    key codes, 41
    HTML document/window object, 40

M, N
Mobile browsers
  advantages, 279
  scaling fakezee for multiple screen sizes
    (see Scaling fakezee for multiple screen sizes)
  touch events
    features, 279
    init function, 279
    multi-touch, 279
    properties, 280
    viewport, 280
Mousedown event listener, 34, 37
Mouse events
  double-click events, 32–33
  drag and drop, 34
  EventListener function, 31
  MouseOver() function, 33
  rollover effect and cursor change, 34
  target property, 32
  trigger event, 32
moveTo method, 20

O
Orb destroyer
  game files
    application, 225–226
    state and state event, 226
    GameMenu class, 227
      encapsulated, 229
      game scene, 229, 231
      msgTxt, 231
      override properties, 229
      run method, 232
      small PulsingOrb objects, 228
orb sprite
  game over screen, 233–234
  uses, 232
procedures, 225
state machine
  application, 235
  changeStates, 236
  game state, 236–237
  initialize method, 236
  onTick handler, 237

P, Q
PhoneGap Build, 291
  application submission, 301
  benefits, 292
configuration file
  config.xml file, 300
  preference and access elements, 298
  XML structure, 297
developer accounts
  for Android, 293
  for iOS, 292
Fakezee game, 294
  application screen, 303
  JSONP, 295
  visual layout adjustment, 294
icons and splash images
  for Android, 297
  for iOS, 298
Progressive Break-it, 55
evaluation
  evalGame function, 73
  evalPuck function, 73
  gameOver function, 74
  removeBricks function, 75
  resetGame function, 74
game code
  constants, 57
  init function, 58
  levels, 58
  newGame and startGame functions, 59
  variables, 57
game controls, 62
game elements
  buildMessageBoard function, 60
  buildPaddle function, 62
  buildPuck function, 62
  buildWalls function, 59
levels
  advancement, 65
  collision, 69
  game loop, 67–69
  newLevel function, 64
  shiftBricksDown function, 66
render function, 72
setup, 56
Puzzle Swap
  coding, 92
  initialization, 87
pieces
  call method, 91
  from Loaded Bitmap Graphic, 88
  onPieceClick function, 90
shuffling, 89
swapPieces function, 91
Ticker and Stage
Update function, 92
setup, 86

R
Render method, 24, 26
RPG battle system, 343

S
Scaling fakezee for multiple screen sizes
app icon
application, 287
fakezee icons, 286
home modal screen, 287
iOS home screen, 287
DOM, 282
feature, 285
hugging, 283
iOS home pages, 285
landscape mode, 289
iOS home screen, 290
dom, 282
feature, 285
hugging, 283
iOS home pages, 285
landscape mode, 289
iOS home screen, 290
types, 290
landscape orientation, 284
local variables, 282
meta tags, 285
nWidthToHeight, 282–283
onOrientationChange, 281–282
portrait orientation, 285
startup image, 288
startup link tags, 288
styles, 280
trigger, 281
Scoring functions
advantage, 168
bonus code, 175
btnKey, 165, 167
complete scoring class, 171–173
dice values, 165, 169, 174
full house category, 169
getchance function, 170
getFakezee Function, 170
getscore function, 166, 171
next function, 167
properties, 166
scoring class, 165
small and large
straight scores, 168
switch statement, 166
temporary value, 174
uniqueArray utility function, 169
uses, 167

setupStage function, 27
SoundJS
asset management (see Asset Manager)
aстерoids (see Asteroids)
createlnstance method, 203
on mobile, 205
play method, 203
PreloadJS, 204
registration, 204
Sound class, 203
Space hero
asset management approach, 239
bitmap fonts, 239
object pool, 239
project preparation
animation frames, 242
application script, 245
Asset Manager, 245
HTML set up, 240
Sprite Sheet, 242
sound usage, 239
space shooter, 239
Sprites creation
bullets, explosions, 250
Enemy Ship
crucial variables, 249
EnemyShip Class, 248
initialize function, 249
reset function, 249
sprite frames, 248
takeDamage function, 249
Hero Ship
animations, 246
EXPLOSION_COMPLETE event, 248
HeroShip Class, 246
INVINCIBLE_TIME, 248
sprite frames, 246
takeDamage method, 248
Sprite sheet, 109
animations (see Sprite sheet animations)
class, 110
bitmaps, 117
drawSprites function, 116
frames, 114
getBounds method, 116
init function, 116
parameters, 115
to stage, 115
font bitmapping (see Font bitmapping)
mancala game, 109
object
animations property, 110–111
data format, 110
frames property, 110
images projects, 110
Sprite sheet (cont.)
- single-frame sprites, 111
- texture packer, 111
  - data format menu, 113
  - mancala assets, 113
  - Publish button, 114
  - web site, 112
Sprite sheet animations
- animation data, 122
- Flash CC, 129
  - Coin animation, 130
  - EaseJS exporting, 135
  - exporting data, 132
  - export screen, 132
  - filters, 131
  - goals, 130
  - inheritance process, 135
  - sprite sheet assets, 134
Zoe tool
- animation frames, 129
- CreateJS.com, 123
- empty project, 124
- in Flash CC, 124
- JSON data, 127
- pig animation .swf file, 125
- pig sprite sheet frames, 128
Square rotation, tweening methods
- center axis, 24
- left axis, 23
  - regX and regY object, 24
  - render method, 24, 26
  - update method, 24, 26
  - update/render cycle, 25
State machine
- declaration, 221
  - changeState function, 224
  - changing game state, 222
  - dispatchEvent, 224
  - event listener, 224
  - game state, 222
  - game state event, 223
  - handler Function, 224
  - patterns, 223
  - procedures, 224
  - RUN_SCENE state, 223
  - tick event, 223
orb destroyer (see Orb destroyer)
Switch statement, 222

T
Texture Packer, 111

U
UI elements
- preloader prototype
  - HTML elements, 27
  - init function, 27
  - load progress, 26
  - mimic load progress, 29
  - percentage updation, 28
  - script element, 27
  - setupStage function, 27
  - updateLoaderBar function, 28
update method, 15, 24, 26
User input, 31
  - color drops, 35
    - buildShapes function, 36
    - checkGame function, 39
    - hitTest method, 39
    - HTML document, canvas element, 35
    - init function, 36
    - key property, 37, 39
    - mousedown event listener, 37
    - point object, 39
    - setBlocks function, 37
    - startDrag function, 38
    - startGame function, 37
    - win message, 40
keyboard events (see Keyboard events)
mouse events (see Mouse events)
text
  - creation, 44
    - DOMElement class, 45
Word game, puzzle
  - adding message, 49
    - ampersand symbol, 47
    - checkForMatches function, 51
    - checkGame function, 52
    - clone method, 51
    - drawBoard function, 47, 49
    - drawLetters function, 48–49
    - drawMessages function, 49
    - gameOver function, 52
    - init function, 47
    - onLetterClick function, 50
    - startGame function, 53
    - win message, 53

V
Veggie Match
  - card-creating function, 100
  - coding, 105
  - flipCard function, 103
initialization, 99
setup, 98
shuffleCards function, 101
Ticker and Stage Update Function, 105
Villager RPG, 305
application class creation, 312
AssetManager class, 310
bad guys, 316
device class creation, 311
Enemy class
  checkHealth method, 331
  constructor function, 324
  createEnemySprite method, 325
  createHealthBar method, 325
  damaging methods, 329
  enableTarget method, 327
  enemy attacks, 326–327
  initialize methods, 324
  properties, 323
  target indicator, 326
EnemyData object, 317
EnemyHealthBar class, 335
in game battle, 306
Game class
  battle button events, 362
  battle panel, 350, 361
  beginEnemyAttack method, 366
  checkEnemyAttack method, 365
  checkLevel method, 368
  enemy attacking methods, 364
  enemyHolder property, 345
  evaluateEnemyStreak function, 367
  initialize method, 346
  lastEnemyAttack property, 345
  populateGrid, 347
  signature and properties, 344
  takeDamage method, 366
  winning and losing methods, 370
GameData object, 319
GameMenu class
  level select screen, 341
  main title screen, 338
Hero class, 336
  saveStats method, 338
  takeDamage method, 338
  updateInventory method, 338
HTML file setup, 307
level winning screen
  level complete class, 371
MagicShop class, 374
PlayerData object, 322
RPG battle system, 343
sprite sheet files, 308
technical achievements
  and features, 305
W, X, Y
Word game, puzzle
  adding message, 49
  ampersand symbol, 47
  checkForMatches function, 51
  checkGame function, 52
  clone method, 51
  drawBoard function, 47, 49
  drawLetters function, 48–49
  drawMessages function, 49
  gameOver function, 52
  init function, 47
  onLetterClick function, 50
  startGame function, 50
  win message, 53
Z
Zoe tool, 123