pystroke

API Documentation

January 8, 2013

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Name	Description
___package___	**Value:** `None`

2 Module pystroke.behaviour

2.1 Variables

Name	Description
___package___	**Value:** `'pystroke'`

2.2 Class Behaviour

Stores a modular behaviour that can be added to a game entity

Author: James Heslin (PROGRAM_IX)

2.2.1 Methods

___init___(*self*, *name*)

Creates a new Behaviour

Parameters

`name`: The name of the Behaviour

(type=string)

Author: James Heslin (PROGRAM_IX)

process(*self*, *entity*)

Performs the operations making up the Behaviour on the game entity

Parameters

`entity`: The game entity affected by the Behaviour

(type=Vex)

Author: James Heslin (PROGRAM_IX)

3 Module pystroke.behaviour_engine

3.1 Variables

Name	Description
___package___	**Value:** `'pystroke'`

3.2 Class BehaviourEngine

Processes all behaviours in beh_dict when update() is called

Author: James Heslin (PROGRAM_IX)

3.2.1 Methods

___init___(*self*, *beh_dict*=`{}`)

Construct a new BehaviourEngine with a list of Behaviours

Parameters

`beh_dict`: The list of Behaviours this BehaviourEngine will use *(type=dict (Behaviour))*

Author: James Heslin (PROGRAM_IX)

update(*self*)

Process all behaviours in beh_dict

Author: James Heslin (PROGRAM_IX)

4 Module pystroke.draw_engine

4.1 Variables

Name	Description
ACTIVEEVENT	**Value:** 1
ANYFORMAT	**Value:** 268435456
ASYNCBLIT	**Value:** 4
AUDIO_S16	**Value:** 32784
AUDIO_S16LSB	**Value:** 32784
AUDIO_S16MSB	**Value:** 36880
AUDIO_S16SYS	**Value:** 32784
AUDIO_S8	**Value:** 32776
AUDIO_U16	**Value:** 16
AUDIO_U16LSB	**Value:** 16
AUDIO_U16MSB	**Value:** 4112
AUDIO_U16SYS	**Value:** 16
AUDIO_U8	**Value:** 8
BIG_ENDIAN	**Value:** 4321
BLEND_ADD	**Value:** 1
BLEND_MAX	**Value:** 5
BLEND_MIN	**Value:** 4
BLEND_MULT	**Value:** 3
BLEND_RGBA_ADD	**Value:** 6
BLEND_RGBA_MAX	**Value:** 16
BLEND_RGBA_MIN	**Value:** 9
BLEND_RGBA_MULT	**Value:** 8
BLEND_RGBA_SUB	**Value:** 7
BLEND_RGB_ADD	**Value:** 1
BLEND_RGB_MAX	**Value:** 5
BLEND_RGB_MIN	**Value:** 4
BLEND_RGB_MULT	**Value:** 3
BLEND_RGB_SUB	**Value:** 2
BLEND_SUB	**Value:** 2
BUTTON_X1	**Value:** 6
BUTTON_X2	**Value:** 7
DOUBLEBUF	**Value:** 1073741824
FULLSCREEN	**Value:** -2147483648
GL_ACCELERATED_VISUAL	**Value:** 15
GL_ACCUM_ALPHA_SIZE	**Value:** 11
GL_ACCUM_BLUE_SIZE	**Value:** 10
GL_ACCUM_GREEN_SIZE	**Value:** 9
GL_ACCUM_RED_SIZE	**Value:** 8
GL_ALPHA_SIZE	**Value:** 3
GL_BLUE_SIZE	**Value:** 2
GL_BUFFER_SIZE	**Value:** 4
GL_DEPTH_SIZE	**Value:** 6
GL_DOUBLEBUFFER	**Value:** 5
GL_GREEN_SIZE	**Value:** 1

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Name	Description
GL_MULTISAMPLEBUFFERS	**Value:** 13
GL_MULTISAMPLESAMPLES	**Value:** 14
GL_RED_SIZE	**Value:** 0
GL_STENCIL_SIZE	**Value:** 7
GL_STEREO	**Value:** 12
GL_SWAP_CONTROL	**Value:** 16
HAT_CENTERED	**Value:** 0
HAT_DOWN	**Value:** 4
HAT_LEFT	**Value:** 8
HAT_LEFTDOWN	**Value:** 12
HAT_LEFTUP	**Value:** 9
HAT_RIGHT	**Value:** 2
HAT_RIGHTDOWN	**Value:** 6
HAT_RIGHTUP	**Value:** 3
HAT_UP	**Value:** 1
HWACCEL	**Value:** 256
HWPALETTE	**Value:** 536870912
HWSURFACE	**Value:** 1
IYUV_OVERLAY	**Value:** 1448433993
JOYAXISMOTION	**Value:** 7
JOYBALLMOTION	**Value:** 8
JOYBUTTONDOWN	**Value:** 10
JOYBUTTONUP	**Value:** 11
JOYHATMOTION	**Value:** 9
KEYDOWN	**Value:** 2
KEYUP	**Value:** 3
KMOD_ALT	**Value:** 768
KMOD_CAPS	**Value:** 8192
KMOD_CTRL	**Value:** 192
KMOD_LALT	**Value:** 256
KMOD_LCTRL	**Value:** 64
KMOD_LMETA	**Value:** 1024
KMOD_LSHIFT	**Value:** 1
KMOD_META	**Value:** 3072
KMOD_MODE	**Value:** 16384
KMOD_NONE	**Value:** 0
KMOD_NUM	**Value:** 4096
KMOD_RALT	**Value:** 512
KMOD_RCTRL	**Value:** 128
KMOD_RMETA	**Value:** 2048
KMOD_RSHIFT	**Value:** 2
KMOD_SHIFT	**Value:** 3
K_0	**Value:** 48
K_1	**Value:** 49
K_2	**Value:** 50
K_3	**Value:** 51
K_4	**Value:** 52
K_5	**Value:** 53

continued on next page

Name	Description
K_6	**Value:** 54
K_7	**Value:** 55
K_8	**Value:** 56
K_9	**Value:** 57
K_AMPERSAND	**Value:** 38
K_ASTERISK	**Value:** 42
K_AT	**Value:** 64
K_BACKQUOTE	**Value:** 96
K_BACKSLASH	**Value:** 92
K_BACKSPACE	**Value:** 8
K_BREAK	**Value:** 318
K_CAPSLOCK	**Value:** 301
K_CARET	**Value:** 94
K_CLEAR	**Value:** 12
K_COLON	**Value:** 58
K_COMMA	**Value:** 44
K_DELETE	**Value:** 127
K_DOLLAR	**Value:** 36
K_DOWN	**Value:** 274
K_END	**Value:** 279
K_EQUALS	**Value:** 61
K_ESCAPE	**Value:** 27
K_EURO	**Value:** 321
K_EXCLAIM	**Value:** 33
K_F1	**Value:** 282
K_F10	**Value:** 291
K_F11	**Value:** 292
K_F12	**Value:** 293
K_F13	**Value:** 294
K_F14	**Value:** 295
K_F15	**Value:** 296
K_F2	**Value:** 283
K_F3	**Value:** 284
K_F4	**Value:** 285
K_F5	**Value:** 286
K_F6	**Value:** 287
K_F7	**Value:** 288
K_F8	**Value:** 289
K_F9	**Value:** 290
K_FIRST	**Value:** 0
K_GREATER	**Value:** 62
K_HASH	**Value:** 35
K_HELP	**Value:** 315
K_HOME	**Value:** 278
K_INSERT	**Value:** 277
K_KP0	**Value:** 256
K_KP1	**Value:** 257
K_KP2	**Value:** 258
K_KP3	**Value:** 259
K_KP4	**Value:** 260

continued on next page

Name	Description
K_KP5	**Value:** 261
K_KP6	**Value:** 262
K_KP7	**Value:** 263
K_KP8	**Value:** 264
K_KP9	**Value:** 265
K_KP_DIVIDE	**Value:** 267
K_KP_ENTER	**Value:** 271
K_KP_EQUALS	**Value:** 272
K_KP_MINUS	**Value:** 269
K_KP_MULTIPLY	**Value:** 268
K_KP_PERIOD	**Value:** 266
K_KP_PLUS	**Value:** 270
K_LALT	**Value:** 308
K_LAST	**Value:** 323
K_LCTRL	**Value:** 306
K_LEFT	**Value:** 276
K_LEFTBRACKET	**Value:** 91
K_LEFTPAREN	**Value:** 40
K_LESS	**Value:** 60
K_LMETA	**Value:** 310
K_LSHIFT	**Value:** 304
K_LSUPER	**Value:** 311
K_MENU	**Value:** 319
K_MINUS	**Value:** 45
K_MODE	**Value:** 313
K_NUMLOCK	**Value:** 300
K_PAGEDOWN	**Value:** 281
K_PAGEUP	**Value:** 280
K_PAUSE	**Value:** 19
K_PERIOD	**Value:** 46
K_PLUS	**Value:** 43
K_POWER	**Value:** 320
K_PRINT	**Value:** 316
K_QUESTION	**Value:** 63
K_QUOTE	**Value:** 39
K_QUOTEDBL	**Value:** 34
K_RALT	**Value:** 307
K_RCTRL	**Value:** 305
K_RETURN	**Value:** 13
K_RIGHT	**Value:** 275
K_RIGHTBRACKET	**Value:** 93
K_RIGHTPAREN	**Value:** 41
K_RMETA	**Value:** 309
K_RSHIFT	**Value:** 303
K_RSUPER	**Value:** 312
K_SCROLLOCK	**Value:** 302
K_SEMICOLON	**Value:** 59
K_SLASH	**Value:** 47
K_SPACE	**Value:** 32
K_SYSREQ	**Value:** 317

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Name	Description
K_TAB	**Value:** 9
K_UNDERSCORE	**Value:** 95
K_UNKNOWN	**Value:** 0
K_UP	**Value:** 273
K_a	**Value:** 97
K_b	**Value:** 98
K_c	**Value:** 99
K_d	**Value:** 100
K_e	**Value:** 101
K_f	**Value:** 102
K_g	**Value:** 103
K_h	**Value:** 104
K_i	**Value:** 105
K_j	**Value:** 106
K_k	**Value:** 107
K_l	**Value:** 108
K_m	**Value:** 109
K_n	**Value:** 110
K_o	**Value:** 111
K_p	**Value:** 112
K_q	**Value:** 113
K_r	**Value:** 114
K_s	**Value:** 115
K_t	**Value:** 116
K_u	**Value:** 117
K_v	**Value:** 118
K_w	**Value:** 119
K_x	**Value:** 120
K_y	**Value:** 121
K_z	**Value:** 122
LIL_ENDIAN	**Value:** 1234
MOUSEBUTTONDOWN	**Value:** 5
MOUSEBUTTONUP	**Value:** 6
MOUSEMOTION	**Value:** 4
NOEVENT	**Value:** 0
NOFRAME	**Value:** 32
NUMEVENTS	**Value:** 32
OPENGL	**Value:** 2
OPENGLBLIT	**Value:** 10
PREALLOC	**Value:** 16777216
QUIT	**Value:** 12
RESIZABLE	**Value:** 16
RLEACCEL	**Value:** 16384
RLEACCELOK	**Value:** 8192
SCRAP_BMP	**Value:** 'image/bmp'
SCRAP_CLIPBOARD	**Value:** 0
SCRAP_PBM	**Value:** 'image/pbm'
SCRAP_PPM	**Value:** 'image/ppm'
SCRAP_SELECTION	**Value:** 1
SCRAP_TEXT	**Value:** 'text/plain'

continued on next page

Name	Description
SRCALPHA	**Value:** `65536`
SRCCOLORKEY	**Value:** `4096`
SWSURFACE	**Value:** `0`
SYSWMEVENT	**Value:** `13`
TIMER_RESOLUTION	**Value:** `10`
USEREVENT	**Value:** `24`
UYVY_OVERLAY	**Value:** `1498831189`
VIDEOEXPOSE	**Value:** `17`
VIDEORESIZE	**Value:** `16`
YUY2_OVERLAY	**Value:** `844715353`
YV12_OVERLAY	**Value:** `842094169`
YVYU_OVERLAY	**Value:** `1431918169`
___package___	**Value:** `'pystroke'`

4.2 Class DrawEngine

Abstracts the calls to Vex.draw() and other drawing methods

Author: James Heslin (PROGRAM_IX)

4.2.1 Methods

___init___(*self*, *screen*)

draw(*self*, *drawables*)

Presumes everything in the drawables list has a draw() method, and draws all of them to screen.

Parameters

`drawables:` The list of objects to draw (all must have a draw() method)

(type=list)

Author: James Heslin (PROGRAM_IX)

begin_draw(*self*, *colour*)

Clears the screen to prepare for drawing

Parameters

`colour:` The colour to fill the screen with

(type=pygame.Color)

Author: James Heslin (PROGRAM_IX)

end_draw(*self*)

Updates the screen after draws have finished

Author: James Heslin (PROGRAM_IX)

5 Module pystroke.event_engine

5.1 Variables

Name	Description
ACTIVEEVENT	**Value:** 1
ANYFORMAT	**Value:** 268435456
ASYNCBLIT	**Value:** 4
AUDIO_S16	**Value:** 32784
AUDIO_S16LSB	**Value:** 32784
AUDIO_S16MSB	**Value:** 36880
AUDIO_S16SYS	**Value:** 32784
AUDIO_S8	**Value:** 32776
AUDIO_U16	**Value:** 16
AUDIO_U16LSB	**Value:** 16
AUDIO_U16MSB	**Value:** 4112
AUDIO_U16SYS	**Value:** 16
AUDIO_U8	**Value:** 8
BIG_ENDIAN	**Value:** 4321
BLEND_ADD	**Value:** 1
BLEND_MAX	**Value:** 5
BLEND_MIN	**Value:** 4
BLEND_MULT	**Value:** 3
BLEND_RGBA_ADD	**Value:** 6
BLEND_RGBA_MAX	**Value:** 16
BLEND_RGBA_MIN	**Value:** 9
BLEND_RGBA_MULT	**Value:** 8
BLEND_RGBA_SUB	**Value:** 7
BLEND_RGB_ADD	**Value:** 1
BLEND_RGB_MAX	**Value:** 5
BLEND_RGB_MIN	**Value:** 4
BLEND_RGB_MULT	**Value:** 3
BLEND_RGB_SUB	**Value:** 2
BLEND_SUB	**Value:** 2
BUTTON_X1	**Value:** 6
BUTTON_X2	**Value:** 7
DOUBLEBUF	**Value:** 1073741824
FULLSCREEN	**Value:** -2147483648
GL_ACCELERATED_VISUAL	**Value:** 15
GL_ACCUM_ALPHA_SIZE	**Value:** 11
GL_ACCUM_BLUE_SIZE	**Value:** 10
GL_ACCUM_GREEN_SIZE	**Value:** 9
GL_ACCUM_RED_SIZE	**Value:** 8
GL_ALPHA_SIZE	**Value:** 3
GL_BLUE_SIZE	**Value:** 2
GL_BUFFER_SIZE	**Value:** 4
GL_DEPTH_SIZE	**Value:** 6
GL_DOUBLEBUFFER	**Value:** 5
GL_GREEN_SIZE	**Value:** 1

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Name	Description
GL_MULTISAMPLEBUFFERS	**Value:** 13
GL_MULTISAMPLESAMPLES	**Value:** 14
GL_RED_SIZE	**Value:** 0
GL_STENCIL_SIZE	**Value:** 7
GL_STEREO	**Value:** 12
GL_SWAP_CONTROL	**Value:** 16
HAT_CENTERED	**Value:** 0
HAT_DOWN	**Value:** 4
HAT_LEFT	**Value:** 8
HAT_LEFTDOWN	**Value:** 12
HAT_LEFTUP	**Value:** 9
HAT_RIGHT	**Value:** 2
HAT_RIGHTDOWN	**Value:** 6
HAT_RIGHTUP	**Value:** 3
HAT_UP	**Value:** 1
HWACCEL	**Value:** 256
HWPALETTE	**Value:** 536870912
HWSURFACE	**Value:** 1
IYUV_OVERLAY	**Value:** 1448433993
JOYAXISMOTION	**Value:** 7
JOYBALLMOTION	**Value:** 8
JOYBUTTONDOWN	**Value:** 10
JOYBUTTONUP	**Value:** 11
JOYHATMOTION	**Value:** 9
KEYDOWN	**Value:** 2
KEYUP	**Value:** 3
KMOD_ALT	**Value:** 768
KMOD_CAPS	**Value:** 8192
KMOD_CTRL	**Value:** 192
KMOD_LALT	**Value:** 256
KMOD_LCTRL	**Value:** 64
KMOD_LMETA	**Value:** 1024
KMOD_LSHIFT	**Value:** 1
KMOD_META	**Value:** 3072
KMOD_MODE	**Value:** 16384
KMOD_NONE	**Value:** 0
KMOD_NUM	**Value:** 4096
KMOD_RALT	**Value:** 512
KMOD_RCTRL	**Value:** 128
KMOD_RMETA	**Value:** 2048
KMOD_RSHIFT	**Value:** 2
KMOD_SHIFT	**Value:** 3
K_0	**Value:** 48
K_1	**Value:** 49
K_2	**Value:** 50
K_3	**Value:** 51
K_4	**Value:** 52
K_5	**Value:** 53

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Name	Description
K_6	**Value:** 54
K_7	**Value:** 55
K_8	**Value:** 56
K_9	**Value:** 57
K_AMPERSAND	**Value:** 38
K_ASTERISK	**Value:** 42
K_AT	**Value:** 64
K_BACKQUOTE	**Value:** 96
K_BACKSLASH	**Value:** 92
K_BACKSPACE	**Value:** 8
K_BREAK	**Value:** 318
K_CAPSLOCK	**Value:** 301
K_CARET	**Value:** 94
K_CLEAR	**Value:** 12
K_COLON	**Value:** 58
K_COMMA	**Value:** 44
K_DELETE	**Value:** 127
K_DOLLAR	**Value:** 36
K_DOWN	**Value:** 274
K_END	**Value:** 279
K_EQUALS	**Value:** 61
K_ESCAPE	**Value:** 27
K_EURO	**Value:** 321
K_EXCLAIM	**Value:** 33
K_F1	**Value:** 282
K_F10	**Value:** 291
K_F11	**Value:** 292
K_F12	**Value:** 293
K_F13	**Value:** 294
K_F14	**Value:** 295
K_F15	**Value:** 296
K_F2	**Value:** 283
K_F3	**Value:** 284
K_F4	**Value:** 285
K_F5	**Value:** 286
K_F6	**Value:** 287
K_F7	**Value:** 288
K_F8	**Value:** 289
K_F9	**Value:** 290
K_FIRST	**Value:** 0
K_GREATER	**Value:** 62
K_HASH	**Value:** 35
K_HELP	**Value:** 315
K_HOME	**Value:** 278
K_INSERT	**Value:** 277
K_KP0	**Value:** 256
K_KP1	**Value:** 257
K_KP2	**Value:** 258
K_KP3	**Value:** 259
K_KP4	**Value:** 260

continued on next page

Name	Description
K_KP5	**Value:** 261
K_KP6	**Value:** 262
K_KP7	**Value:** 263
K_KP8	**Value:** 264
K_KP9	**Value:** 265
K_KP_DIVIDE	**Value:** 267
K_KP_ENTER	**Value:** 271
K_KP_EQUALS	**Value:** 272
K_KP_MINUS	**Value:** 269
K_KP_MULTIPLY	**Value:** 268
K_KP_PERIOD	**Value:** 266
K_KP_PLUS	**Value:** 270
K_LALT	**Value:** 308
K_LAST	**Value:** 323
K_LCTRL	**Value:** 306
K_LEFT	**Value:** 276
K_LEFTBRACKET	**Value:** 91
K_LEFTPAREN	**Value:** 40
K_LESS	**Value:** 60
K_LMETA	**Value:** 310
K_LSHIFT	**Value:** 304
K_LSUPER	**Value:** 311
K_MENU	**Value:** 319
K_MINUS	**Value:** 45
K_MODE	**Value:** 313
K_NUMLOCK	**Value:** 300
K_PAGEDOWN	**Value:** 281
K_PAGEUP	**Value:** 280
K_PAUSE	**Value:** 19
K_PERIOD	**Value:** 46
K_PLUS	**Value:** 43
K_POWER	**Value:** 320
K_PRINT	**Value:** 316
K_QUESTION	**Value:** 63
K_QUOTE	**Value:** 39
K_QUOTEDBL	**Value:** 34
K_RALT	**Value:** 307
K_RCTRL	**Value:** 305
K_RETURN	**Value:** 13
K_RIGHT	**Value:** 275
K_RIGHTBRACKET	**Value:** 93
K_RIGHTPAREN	**Value:** 41
K_RMETA	**Value:** 309
K_RSHIFT	**Value:** 303
K_RSUPER	**Value:** 312
K_SCROLLOCK	**Value:** 302
K_SEMICOLON	**Value:** 59
K_SLASH	**Value:** 47
K_SPACE	**Value:** 32
K_SYSREQ	**Value:** 317

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Name	Description
K_TAB	**Value:** 9
K_UNDERSCORE	**Value:** 95
K_UNKNOWN	**Value:** 0
K_UP	**Value:** 273
K_a	**Value:** 97
K_b	**Value:** 98
K_c	**Value:** 99
K_d	**Value:** 100
K_e	**Value:** 101
K_f	**Value:** 102
K_g	**Value:** 103
K_h	**Value:** 104
K_i	**Value:** 105
K_j	**Value:** 106
K_k	**Value:** 107
K_l	**Value:** 108
K_m	**Value:** 109
K_n	**Value:** 110
K_o	**Value:** 111
K_p	**Value:** 112
K_q	**Value:** 113
K_r	**Value:** 114
K_s	**Value:** 115
K_t	**Value:** 116
K_u	**Value:** 117
K_v	**Value:** 118
K_w	**Value:** 119
K_x	**Value:** 120
K_y	**Value:** 121
K_z	**Value:** 122
LIL_ENDIAN	**Value:** 1234
MOUSEBUTTONDOWN	**Value:** 5
MOUSEBUTTONUP	**Value:** 6
MOUSEMOTION	**Value:** 4
NOEVENT	**Value:** 0
NOFRAME	**Value:** 32
NUMEVENTS	**Value:** 32
OPENGL	**Value:** 2
OPENGLBLIT	**Value:** 10
PREALLOC	**Value:** 16777216
QUIT	**Value:** 12
RESIZABLE	**Value:** 16
RLEACCEL	**Value:** 16384
RLEACCELOK	**Value:** 8192
SCRAP_BMP	**Value:** 'image/bmp'
SCRAP_CLIPBOARD	**Value:** 0
SCRAP_PBM	**Value:** 'image/pbm'
SCRAP_PPM	**Value:** 'image/ppm'
SCRAP_SELECTION	**Value:** 1
SCRAP_TEXT	**Value:** 'text/plain'

continued on next page

Name	Description
SRCALPHA	**Value:** 65536
SRCCOLORKEY	**Value:** 4096
SWSURFACE	**Value:** 0
SYSWMEVENT	**Value:** 13
TIMER_RESOLUTION	**Value:** 10
USEREVENT	**Value:** 24
UYVY_OVERLAY	**Value:** 1498831189
VIDEOEXPOSE	**Value:** 17
VIDEORESIZE	**Value:** 16
YUY2_OVERLAY	**Value:** 844715353
YV12_OVERLAY	**Value:** 842094169
YVYU_OVERLAY	**Value:** 1431918169
__package__	**Value:** 'pystroke'

5.2 Class EventEngine

Reads the event queue and passes events to other engines

Author: James Heslin (PROGRAM_IX)

5.2.1 Methods

__init__(*self*, *i_e*)

Takes an InputEngine and passes all relevant events to it

Parameters

`i_e`: InputEngine to which input events should be passed

(type=InputEngine)

Author: James Heslin (PROGRAM_IX)

update(*self*)

Pulls all relevant events from the event queue and passes them to the appropriate engines

Author: James Heslin (PROGRAM_IX)

print_input_states(*self*)

Prints the states of the InputEngine

Author: James Heslin (PROGRAM_IX)

6 Module pystroke.game

6.1 Functions

main()

Default running parameters for Game

Author: James Heslin (PROGRAM_IX)

6.2 Variables

Name	Description
___package___	**Value:** `'pystroke'`

6.3 Class Game

Container and manager for GameEngine instances

Author: James Heslin (PROGRAM_IX)

6.3.1 Methods

___init___(*self*, *width*, *height*)

Constructs a new Game, whose screen has the specified width and height

Parameters

`width:` Width of the screen

(type=int)

`height:` Height of the screen

(type=int)

Author: James Heslin (PROGRAM_IX)

start(*self*)

Set up the GameEngine and begin running the game

Author: James Heslin (PROGRAM_IX)

7 Module pystroke.game_engine

7.1 Variables

Name	Description
ACTIVEEVENT	**Value:** 1
ANYFORMAT	**Value:** 268435456
ASYNCBLIT	**Value:** 4
AUDIO_S16	**Value:** 32784
AUDIO_S16LSB	**Value:** 32784
AUDIO_S16MSB	**Value:** 36880
AUDIO_S16SYS	**Value:** 32784
AUDIO_S8	**Value:** 32776
AUDIO_U16	**Value:** 16
AUDIO_U16LSB	**Value:** 16
AUDIO_U16MSB	**Value:** 4112
AUDIO_U16SYS	**Value:** 16
AUDIO_U8	**Value:** 8
BIG_ENDIAN	**Value:** 4321
BLEND_ADD	**Value:** 1
BLEND_MAX	**Value:** 5
BLEND_MIN	**Value:** 4
BLEND_MULT	**Value:** 3
BLEND_RGBA_ADD	**Value:** 6
BLEND_RGBA_MAX	**Value:** 16
BLEND_RGBA_MIN	**Value:** 9
BLEND_RGBA_MULT	**Value:** 8
BLEND_RGBA_SUB	**Value:** 7
BLEND_RGB_ADD	**Value:** 1
BLEND_RGB_MAX	**Value:** 5
BLEND_RGB_MIN	**Value:** 4
BLEND_RGB_MULT	**Value:** 3
BLEND_RGB_SUB	**Value:** 2
BLEND_SUB	**Value:** 2
BUTTON_X1	**Value:** 6
BUTTON_X2	**Value:** 7
DOUBLEBUF	**Value:** 1073741824
FULLSCREEN	**Value:** -2147483648
GL_ACCELERATED_VISUAL	**Value:** 15
GL_ACCUM_ALPHA_SIZE	**Value:** 11
GL_ACCUM_BLUE_SIZE	**Value:** 10
GL_ACCUM_GREEN_SIZE	**Value:** 9
GL_ACCUM_RED_SIZE	**Value:** 8
GL_ALPHA_SIZE	**Value:** 3
GL_BLUE_SIZE	**Value:** 2
GL_BUFFER_SIZE	**Value:** 4
GL_DEPTH_SIZE	**Value:** 6
GL_DOUBLEBUFFER	**Value:** 5
GL_GREEN_SIZE	**Value:** 1

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Name	Description
GL_MULTISAMPLEBUFFERS	**Value:** 13
GL_MULTISAMPLESAMPLES	**Value:** 14
GL_RED_SIZE	**Value:** 0
GL_STENCIL_SIZE	**Value:** 7
GL_STEREO	**Value:** 12
GL_SWAP_CONTROL	**Value:** 16
HAT_CENTERED	**Value:** 0
HAT_DOWN	**Value:** 4
HAT_LEFT	**Value:** 8
HAT_LEFTDOWN	**Value:** 12
HAT_LEFTUP	**Value:** 9
HAT_RIGHT	**Value:** 2
HAT_RIGHTDOWN	**Value:** 6
HAT_RIGHTUP	**Value:** 3
HAT_UP	**Value:** 1
HWACCEL	**Value:** 256
HWPALETTE	**Value:** 536870912
HWSURFACE	**Value:** 1
IYUV_OVERLAY	**Value:** 1448433993
JOYAXISMOTION	**Value:** 7
JOYBALLMOTION	**Value:** 8
JOYBUTTONDOWN	**Value:** 10
JOYBUTTONUP	**Value:** 11
JOYHATMOTION	**Value:** 9
KEYDOWN	**Value:** 2
KEYUP	**Value:** 3
KMOD_ALT	**Value:** 768
KMOD_CAPS	**Value:** 8192
KMOD_CTRL	**Value:** 192
KMOD_LALT	**Value:** 256
KMOD_LCTRL	**Value:** 64
KMOD_LMETA	**Value:** 1024
KMOD_LSHIFT	**Value:** 1
KMOD_META	**Value:** 3072
KMOD_MODE	**Value:** 16384
KMOD_NONE	**Value:** 0
KMOD_NUM	**Value:** 4096
KMOD_RALT	**Value:** 512
KMOD_RCTRL	**Value:** 128
KMOD_RMETA	**Value:** 2048
KMOD_RSHIFT	**Value:** 2
KMOD_SHIFT	**Value:** 3
K_0	**Value:** 48
K_1	**Value:** 49
K_2	**Value:** 50
K_3	**Value:** 51
K_4	**Value:** 52
K_5	**Value:** 53

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Name	Description
K_6	**Value:** 54
K_7	**Value:** 55
K_8	**Value:** 56
K_9	**Value:** 57
K_AMPERSAND	**Value:** 38
K_ASTERISK	**Value:** 42
K_AT	**Value:** 64
K_BACKQUOTE	**Value:** 96
K_BACKSLASH	**Value:** 92
K_BACKSPACE	**Value:** 8
K_BREAK	**Value:** 318
K_CAPSLOCK	**Value:** 301
K_CARET	**Value:** 94
K_CLEAR	**Value:** 12
K_COLON	**Value:** 58
K_COMMA	**Value:** 44
K_DELETE	**Value:** 127
K_DOLLAR	**Value:** 36
K_DOWN	**Value:** 274
K_END	**Value:** 279
K_EQUALS	**Value:** 61
K_ESCAPE	**Value:** 27
K_EURO	**Value:** 321
K_EXCLAIM	**Value:** 33
K_F1	**Value:** 282
K_F10	**Value:** 291
K_F11	**Value:** 292
K_F12	**Value:** 293
K_F13	**Value:** 294
K_F14	**Value:** 295
K_F15	**Value:** 296
K_F2	**Value:** 283
K_F3	**Value:** 284
K_F4	**Value:** 285
K_F5	**Value:** 286
K_F6	**Value:** 287
K_F7	**Value:** 288
K_F8	**Value:** 289
K_F9	**Value:** 290
K_FIRST	**Value:** 0
K_GREATER	**Value:** 62
K_HASH	**Value:** 35
K_HELP	**Value:** 315
K_HOME	**Value:** 278
K_INSERT	**Value:** 277
K_KP0	**Value:** 256
K_KP1	**Value:** 257
K_KP2	**Value:** 258
K_KP3	**Value:** 259
K_KP4	**Value:** 260

continued on next page

Name	Description
K_KP5	**Value:** 261
K_KP6	**Value:** 262
K_KP7	**Value:** 263
K_KP8	**Value:** 264
K_KP9	**Value:** 265
K_KP_DIVIDE	**Value:** 267
K_KP_ENTER	**Value:** 271
K_KP_EQUALS	**Value:** 272
K_KP_MINUS	**Value:** 269
K_KP_MULTIPLY	**Value:** 268
K_KP_PERIOD	**Value:** 266
K_KP_PLUS	**Value:** 270
K_LALT	**Value:** 308
K_LAST	**Value:** 323
K_LCTRL	**Value:** 306
K_LEFT	**Value:** 276
K_LEFTBRACKET	**Value:** 91
K_LEFTPAREN	**Value:** 40
K_LESS	**Value:** 60
K_LMETA	**Value:** 310
K_LSHIFT	**Value:** 304
K_LSUPER	**Value:** 311
K_MENU	**Value:** 319
K_MINUS	**Value:** 45
K_MODE	**Value:** 313
K_NUMLOCK	**Value:** 300
K_PAGEDOWN	**Value:** 281
K_PAGEUP	**Value:** 280
K_PAUSE	**Value:** 19
K_PERIOD	**Value:** 46
K_PLUS	**Value:** 43
K_POWER	**Value:** 320
K_PRINT	**Value:** 316
K_QUESTION	**Value:** 63
K_QUOTE	**Value:** 39
K_QUOTEDBL	**Value:** 34
K_RALT	**Value:** 307
K_RCTRL	**Value:** 305
K_RETURN	**Value:** 13
K_RIGHT	**Value:** 275
K_RIGHTBRACKET	**Value:** 93
K_RIGHTPAREN	**Value:** 41
K_RMETA	**Value:** 309
K_RSHIFT	**Value:** 303
K_RSUPER	**Value:** 312
K_SCROLLOCK	**Value:** 302
K_SEMICOLON	**Value:** 59
K_SLASH	**Value:** 47
K_SPACE	**Value:** 32
K_SYSREQ	**Value:** 317

continued on next page

Name	Description
K_TAB	**Value:** 9
K_UNDERSCORE	**Value:** 95
K_UNKNOWN	**Value:** 0
K_UP	**Value:** 273
K_a	**Value:** 97
K_b	**Value:** 98
K_c	**Value:** 99
K_d	**Value:** 100
K_e	**Value:** 101
K_f	**Value:** 102
K_g	**Value:** 103
K_h	**Value:** 104
K_i	**Value:** 105
K_j	**Value:** 106
K_k	**Value:** 107
K_l	**Value:** 108
K_m	**Value:** 109
K_n	**Value:** 110
K_o	**Value:** 111
K_p	**Value:** 112
K_q	**Value:** 113
K_r	**Value:** 114
K_s	**Value:** 115
K_t	**Value:** 116
K_u	**Value:** 117
K_v	**Value:** 118
K_w	**Value:** 119
K_x	**Value:** 120
K_y	**Value:** 121
K_z	**Value:** 122
LIL_ENDIAN	**Value:** 1234
MOUSEBUTTONDOWN	**Value:** 5
MOUSEBUTTONUP	**Value:** 6
MOUSEMOTION	**Value:** 4
NOEVENT	**Value:** 0
NOFRAME	**Value:** 32
NUMEVENTS	**Value:** 32
OPENGL	**Value:** 2
OPENGLBLIT	**Value:** 10
PREALLOC	**Value:** 16777216
QUIT	**Value:** 12
RESIZABLE	**Value:** 16
RLEACCEL	**Value:** 16384
RLEACCELOK	**Value:** 8192
SCRAP_BMP	**Value:** 'image/bmp'
SCRAP_CLIPBOARD	**Value:** 0
SCRAP_PBM	**Value:** 'image/pbm'
SCRAP_PPM	**Value:** 'image/ppm'
SCRAP_SELECTION	**Value:** 1
SCRAP_TEXT	**Value:** 'text/plain'

continued on next page

Name	Description
SRCALPHA	**Value:** `65536`
SRCCOLORKEY	**Value:** `4096`
SWSURFACE	**Value:** `0`
SYSWMEVENT	**Value:** `13`
TIMER_RESOLUTION	**Value:** `10`
USEREVENT	**Value:** `24`
UYVY_OVERLAY	**Value:** `1498831189`
VIDEOEXPOSE	**Value:** `17`
VIDEORESIZE	**Value:** `16`
YUY2_OVERLAY	**Value:** `844715353`
YV12_OVERLAY	**Value:** `842094169`
YVYU_OVERLAY	**Value:** `1431918169`
__package__	**Value:** `'pystroke'`

7.2 Class GameEngine

Generic class to contain all logic for the basic running of the game

Author: James Heslin (PROGRAM_IX)

7.2.1 Methods

__init__(*self*, *screen*)

Constructs a GameEngine

Parameters

`screen`: The screen on which the game will be rendered - this will be passed around to other classes

(type=pygame.Surface)

Author: James Heslin (PROGRAM_IX)

update(*self*)

Performs per-frame logic

Author: James Heslin (PROGRAM_IX)

draw(*self*)

Draws all necessary elements using the DrawEngine

Author: James Heslin (PROGRAM_IX)

run(*self*)

The main loop of the game

Author: James Heslin (PROGRAM_IX)

8 Module pystroke.hud

8.1 Variables

Name	Description
ACTIVEEVENT	**Value:** 1
ANYFORMAT	**Value:** 268435456
ASYNCBLIT	**Value:** 4
AUDIO_S16	**Value:** 32784
AUDIO_S16LSB	**Value:** 32784
AUDIO_S16MSB	**Value:** 36880
AUDIO_S16SYS	**Value:** 32784
AUDIO_S8	**Value:** 32776
AUDIO_U16	**Value:** 16
AUDIO_U16LSB	**Value:** 16
AUDIO_U16MSB	**Value:** 4112
AUDIO_U16SYS	**Value:** 16
AUDIO_U8	**Value:** 8
BIG_ENDIAN	**Value:** 4321
BLEND_ADD	**Value:** 1
BLEND_MAX	**Value:** 5
BLEND_MIN	**Value:** 4
BLEND_MULT	**Value:** 3
BLEND_RGBA_ADD	**Value:** 6
BLEND_RGBA_MAX	**Value:** 16
BLEND_RGBA_MIN	**Value:** 9
BLEND_RGBA_MULT	**Value:** 8
BLEND_RGBA_SUB	**Value:** 7
BLEND_RGB_ADD	**Value:** 1
BLEND_RGB_MAX	**Value:** 5
BLEND_RGB_MIN	**Value:** 4
BLEND_RGB_MULT	**Value:** 3
BLEND_RGB_SUB	**Value:** 2
BLEND_SUB	**Value:** 2
BUTTON_X1	**Value:** 6
BUTTON_X2	**Value:** 7
DOUBLEBUF	**Value:** 1073741824
FULLSCREEN	**Value:** -2147483648
GL_ACCELERATED_VISUAL	**Value:** 15
GL_ACCUM_ALPHA_SIZE	**Value:** 11
GL_ACCUM_BLUE_SIZE	**Value:** 10
GL_ACCUM_GREEN_SIZE	**Value:** 9
GL_ACCUM_RED_SIZE	**Value:** 8
GL_ALPHA_SIZE	**Value:** 3
GL_BLUE_SIZE	**Value:** 2
GL_BUFFER_SIZE	**Value:** 4
GL_DEPTH_SIZE	**Value:** 6
GL_DOUBLEBUFFER	**Value:** 5
GL_GREEN_SIZE	**Value:** 1

continued on next page

Name	Description
GL_MULTISAMPLEBUFFERS	**Value:** 13
GL_MULTISAMPLESAMPLES	**Value:** 14
GL_RED_SIZE	**Value:** 0
GL_STENCIL_SIZE	**Value:** 7
GL_STEREO	**Value:** 12
GL_SWAP_CONTROL	**Value:** 16
HAT_CENTERED	**Value:** 0
HAT_DOWN	**Value:** 4
HAT_LEFT	**Value:** 8
HAT_LEFTDOWN	**Value:** 12
HAT_LEFTUP	**Value:** 9
HAT_RIGHT	**Value:** 2
HAT_RIGHTDOWN	**Value:** 6
HAT_RIGHTUP	**Value:** 3
HAT_UP	**Value:** 1
HWACCEL	**Value:** 256
HWPALETTE	**Value:** 536870912
HWSURFACE	**Value:** 1
IYUV_OVERLAY	**Value:** 1448433993
JOYAXISMOTION	**Value:** 7
JOYBALLMOTION	**Value:** 8
JOYBUTTONDOWN	**Value:** 10
JOYBUTTONUP	**Value:** 11
JOYHATMOTION	**Value:** 9
KEYDOWN	**Value:** 2
KEYUP	**Value:** 3
KMOD_ALT	**Value:** 768
KMOD_CAPS	**Value:** 8192
KMOD_CTRL	**Value:** 192
KMOD_LALT	**Value:** 256
KMOD_LCTRL	**Value:** 64
KMOD_LMETA	**Value:** 1024
KMOD_LSHIFT	**Value:** 1
KMOD_META	**Value:** 3072
KMOD_MODE	**Value:** 16384
KMOD_NONE	**Value:** 0
KMOD_NUM	**Value:** 4096
KMOD_RALT	**Value:** 512
KMOD_RCTRL	**Value:** 128
KMOD_RMETA	**Value:** 2048
KMOD_RSHIFT	**Value:** 2
KMOD_SHIFT	**Value:** 3
K_0	**Value:** 48
K_1	**Value:** 49
K_2	**Value:** 50
K_3	**Value:** 51
K_4	**Value:** 52
K_5	**Value:** 53

continued on next page

Name	Description
K_6	**Value:** 54
K_7	**Value:** 55
K_8	**Value:** 56
K_9	**Value:** 57
K_AMPERSAND	**Value:** 38
K_ASTERISK	**Value:** 42
K_AT	**Value:** 64
K_BACKQUOTE	**Value:** 96
K_BACKSLASH	**Value:** 92
K_BACKSPACE	**Value:** 8
K_BREAK	**Value:** 318
K_CAPSLOCK	**Value:** 301
K_CARET	**Value:** 94
K_CLEAR	**Value:** 12
K_COLON	**Value:** 58
K_COMMA	**Value:** 44
K_DELETE	**Value:** 127
K_DOLLAR	**Value:** 36
K_DOWN	**Value:** 274
K_END	**Value:** 279
K_EQUALS	**Value:** 61
K_ESCAPE	**Value:** 27
K_EURO	**Value:** 321
K_EXCLAIM	**Value:** 33
K_F1	**Value:** 282
K_F10	**Value:** 291
K_F11	**Value:** 292
K_F12	**Value:** 293
K_F13	**Value:** 294
K_F14	**Value:** 295
K_F15	**Value:** 296
K_F2	**Value:** 283
K_F3	**Value:** 284
K_F4	**Value:** 285
K_F5	**Value:** 286
K_F6	**Value:** 287
K_F7	**Value:** 288
K_F8	**Value:** 289
K_F9	**Value:** 290
K_FIRST	**Value:** 0
K_GREATER	**Value:** 62
K_HASH	**Value:** 35
K_HELP	**Value:** 315
K_HOME	**Value:** 278
K_INSERT	**Value:** 277
K_KP0	**Value:** 256
K_KP1	**Value:** 257
K_KP2	**Value:** 258
K_KP3	**Value:** 259
K_KP4	**Value:** 260

continued on next page

Name	Description
K_KP5	**Value:** 261
K_KP6	**Value:** 262
K_KP7	**Value:** 263
K_KP8	**Value:** 264
K_KP9	**Value:** 265
K_KP_DIVIDE	**Value:** 267
K_KP_ENTER	**Value:** 271
K_KP_EQUALS	**Value:** 272
K_KP_MINUS	**Value:** 269
K_KP_MULTIPLY	**Value:** 268
K_KP_PERIOD	**Value:** 266
K_KP_PLUS	**Value:** 270
K_LALT	**Value:** 308
K_LAST	**Value:** 323
K_LCTRL	**Value:** 306
K_LEFT	**Value:** 276
K_LEFTBRACKET	**Value:** 91
K_LEFTPAREN	**Value:** 40
K_LESS	**Value:** 60
K_LMETA	**Value:** 310
K_LSHIFT	**Value:** 304
K_LSUPER	**Value:** 311
K_MENU	**Value:** 319
K_MINUS	**Value:** 45
K_MODE	**Value:** 313
K_NUMLOCK	**Value:** 300
K_PAGEDOWN	**Value:** 281
K_PAGEUP	**Value:** 280
K_PAUSE	**Value:** 19
K_PERIOD	**Value:** 46
K_PLUS	**Value:** 43
K_POWER	**Value:** 320
K_PRINT	**Value:** 316
K_QUESTION	**Value:** 63
K_QUOTE	**Value:** 39
K_QUOTEDBL	**Value:** 34
K_RALT	**Value:** 307
K_RCTRL	**Value:** 305
K_RETURN	**Value:** 13
K_RIGHT	**Value:** 275
K_RIGHTBRACKET	**Value:** 93
K_RIGHTPAREN	**Value:** 41
K_RMETA	**Value:** 309
K_RSHIFT	**Value:** 303
K_RSUPER	**Value:** 312
K_SCROLLOCK	**Value:** 302
K_SEMICOLON	**Value:** 59
K_SLASH	**Value:** 47
K_SPACE	**Value:** 32
K_SYSREQ	**Value:** 317

continued on next page

Name	Description
K_TAB	**Value:** 9
K_UNDERSCORE	**Value:** 95
K_UNKNOWN	**Value:** 0
K_UP	**Value:** 273
K_a	**Value:** 97
K_b	**Value:** 98
K_c	**Value:** 99
K_d	**Value:** 100
K_e	**Value:** 101
K_f	**Value:** 102
K_g	**Value:** 103
K_h	**Value:** 104
K_i	**Value:** 105
K_j	**Value:** 106
K_k	**Value:** 107
K_l	**Value:** 108
K_m	**Value:** 109
K_n	**Value:** 110
K_o	**Value:** 111
K_p	**Value:** 112
K_q	**Value:** 113
K_r	**Value:** 114
K_s	**Value:** 115
K_t	**Value:** 116
K_u	**Value:** 117
K_v	**Value:** 118
K_w	**Value:** 119
K_x	**Value:** 120
K_y	**Value:** 121
K_z	**Value:** 122
LIL_ENDIAN	**Value:** 1234
MOUSEBUTTONDOWN	**Value:** 5
MOUSEBUTTONUP	**Value:** 6
MOUSEMOTION	**Value:** 4
NOEVENT	**Value:** 0
NOFRAME	**Value:** 32
NUMEVENTS	**Value:** 32
OPENGL	**Value:** 2
OPENGLBLIT	**Value:** 10
PREALLOC	**Value:** 16777216
QUIT	**Value:** 12
RESIZABLE	**Value:** 16
RLEACCEL	**Value:** 16384
RLEACCELOK	**Value:** 8192
SCRAP_BMP	**Value:** 'image/bmp'
SCRAP_CLIPBOARD	**Value:** 0
SCRAP_PBM	**Value:** 'image/pbm'
SCRAP_PPM	**Value:** 'image/ppm'
SCRAP_SELECTION	**Value:** 1
SCRAP_TEXT	**Value:** 'text/plain'

continued on next page

Name	Description
SRCALPHA	**Value:** `65536`
SRCCOLORKEY	**Value:** `4096`
SWSURFACE	**Value:** `0`
SYSWMEVENT	**Value:** `13`
TIMER_RESOLUTION	**Value:** `10`
USEREVENT	**Value:** `24`
UYVY_OVERLAY	**Value:** `1498831189`
VIDEOEXPOSE	**Value:** `17`
VIDEORESIZE	**Value:** `16`
YUY2_OVERLAY	**Value:** `844715353`
YV12_OVERLAY	**Value:** `842094169`
YVYU_OVERLAY	**Value:** `1431918169`
___package___	**Value:** `'pystroke'`

8.2 Class HUDElement

Known Subclasses: pystroke.hud.HUDLine, pystroke.hud.HUDPolygon, pystroke.hud.HUDText

Generic part of a heads-up display

Author: James Heslin (PROGRAM_IX)

8.2.1 Methods

___init___(*self*, *label*, *colour*)

Constructs a new HUDElement

Parameters

`label:` Identifier of the element

(type=string)

`colour:` Colour of the element

(type=pygame.Colour)

Author: James Heslin (PROGRAM_IX)

draw(*self*, *screen*)

Draw the element to the screen

Parameters

`screen:` The surface onto which the game will be rendered

(type=pygame.Surface)

Author: James Heslin (PROGRAM_IX)

8.3 Class HUDText

pystroke.hud.HUDElement
└ **pystroke.hud.HUDText**

An element of a heads-up display consisting of text

Author: James Heslin (PROGRAM_IX)

8.3.1 Methods

___init___(*self*, *label*, *colour*, *text*, *pos*, *size*, *width*)

Constructs a new HUDElement

Parameters

`label:` Identifier of the text
(type=string)

`colour:` Colour of the text
(type=pygame.Color)

`text:` Text to display
(type=string)

`pos:` Coordinates of text start point
(type=list/tuple containing two ints)

Overrides: pystroke.hud.HUDElement.___init___

Author: James Heslin (PROGRAM_IX)

draw(*self*, *screen*)

Render the text to the screen

Parameters

`screen:` The screen onto which the text should be rendered
(type=pygame.Surface)

Overrides: pystroke.hud.HUDElement.draw

Author: James Heslin (PROGRAM_IX)

8.3.2 Class Variables

Name	Description
letters	**Value:** `{'0': ((5, 15), (-5, -10), (-5, 15), (5, 15), (5, -10), (...`

8.4 Class HUDLine

pystroke.hud.HUDElement
└ **pystroke.hud.HUDLine**

An element of a heads-up display consisting of a line

Author: James Heslin (PROGRAM_IX)

8.4.1 Methods

___init___(*self*, *label*, *colour*, *line*)

Constructs a new HUDLine

Parameters

`label:` Identifier of the line

(type=string)

`colour:` Colour of the line

(type=pygame.Color)

`line:` Line arguments

(type=list/tuple containing start position tuple (int, int), end position tuple (int, int), and width (int))

Overrides: pystroke.hud.HUDElement.___init___

Author: James Heslin (PROGRAM_IX)

draw(*self*, *screen*)

Render the line to the screen

Parameters

`screen:` The screen onto which the line should be rendered

(type=pygame.Surface)

Overrides: pystroke.hud.HUDElement.draw

Author: James Heslin (PROGRAM_IX)

8.5 Class HUDPolygon

pystroke.hud.HUDElement
└ **pystroke.hud.HUDPolygon**

An element of a heads-up display consisting of a polygon

Author: James Heslin (PROGRAM_IX)

8.5.1 Methods

___init___(*self*, *label*, *colour*, *lines*)

Constructs a new HUDElement

Parameters

`label:` Identifier of the polygon

(type=string)

`colour:` Colour of the polygon

(type=pygame.Colour)

`lines:` Lines portion of the element

(type=list/tuple containing a tuple of points (each (int, int)) and an int)

Overrides: pystroke.hud.HUDElement.___init___

Author: James Heslin (PROGRAM_IX)

draw(*self*, *screen*)

Render the polygon to the screen

Parameters

`screen:` The screen onto which the polygon is to be rendered

(type=pygame.Surface)

Overrides: pystroke.hud.HUDElement.draw

Author: James Heslin (PROGRAM_IX)

8.6 Class HUD

A heads-up display, which comprises various visual elements displayed on a screen to give information to a player

Author: James Heslin (PROGRAM_IX)

8.6.1 Methods

___init___(*self*)

Constructs a new HUD

Author: James Heslin (PROGRAM_IX)

add(*self*, *hud_el*)

Add a new element to the HUD

Author: James Heslin (PROGRAM_IX)

draw(*self*, *screen*)

Renders all elements of the HUD to the screen

Parameters

`screen`: The screen onto which the HUD is to be rendered

(type=pygame.Surface)

Author: James Heslin (PROGRAM_IX)

get(*self*, *label*)

Returns a HUDElement with matching label from elements, otherwise returns None

Parameters

`label`: The label of the HUDElement to retrieve

(type=string)

Return Value

The HUDElement with the specified label

(type=HUDElement or None)

Author: James Heslin (PROGRAM_IX)

9 Module pystroke.input_engine

9.1 Variables

Name	Description
ACTIVEEVENT	**Value:** 1
ANYFORMAT	**Value:** 268435456
ASYNCBLIT	**Value:** 4
AUDIO_S16	**Value:** 32784
AUDIO_S16LSB	**Value:** 32784
AUDIO_S16MSB	**Value:** 36880
AUDIO_S16SYS	**Value:** 32784
AUDIO_S8	**Value:** 32776
AUDIO_U16	**Value:** 16
AUDIO_U16LSB	**Value:** 16
AUDIO_U16MSB	**Value:** 4112
AUDIO_U16SYS	**Value:** 16
AUDIO_U8	**Value:** 8
BIG_ENDIAN	**Value:** 4321
BLEND_ADD	**Value:** 1
BLEND_MAX	**Value:** 5
BLEND_MIN	**Value:** 4
BLEND_MULT	**Value:** 3
BLEND_RGBA_ADD	**Value:** 6
BLEND_RGBA_MAX	**Value:** 16
BLEND_RGBA_MIN	**Value:** 9
BLEND_RGBA_MULT	**Value:** 8
BLEND_RGBA_SUB	**Value:** 7
BLEND_RGB_ADD	**Value:** 1
BLEND_RGB_MAX	**Value:** 5
BLEND_RGB_MIN	**Value:** 4
BLEND_RGB_MULT	**Value:** 3
BLEND_RGB_SUB	**Value:** 2
BLEND_SUB	**Value:** 2
BUTTON_X1	**Value:** 6
BUTTON_X2	**Value:** 7
DOUBLEBUF	**Value:** 1073741824
FULLSCREEN	**Value:** -2147483648
GL_ACCELERATED_VISUAL	**Value:** 15
GL_ACCUM_ALPHA_SIZE	**Value:** 11
GL_ACCUM_BLUE_SIZE	**Value:** 10
GL_ACCUM_GREEN_SIZE	**Value:** 9
GL_ACCUM_RED_SIZE	**Value:** 8
GL_ALPHA_SIZE	**Value:** 3
GL_BLUE_SIZE	**Value:** 2
GL_BUFFER_SIZE	**Value:** 4
GL_DEPTH_SIZE	**Value:** 6
GL_DOUBLEBUFFER	**Value:** 5
GL_GREEN_SIZE	**Value:** 1

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Name	Description
GL_MULTISAMPLEBUFFERS	**Value:** 13
GL_MULTISAMPLESAMPLES	**Value:** 14
GL_RED_SIZE	**Value:** 0
GL_STENCIL_SIZE	**Value:** 7
GL_STEREO	**Value:** 12
GL_SWAP_CONTROL	**Value:** 16
HAT_CENTERED	**Value:** 0
HAT_DOWN	**Value:** 4
HAT_LEFT	**Value:** 8
HAT_LEFTDOWN	**Value:** 12
HAT_LEFTUP	**Value:** 9
HAT_RIGHT	**Value:** 2
HAT_RIGHTDOWN	**Value:** 6
HAT_RIGHTUP	**Value:** 3
HAT_UP	**Value:** 1
HWACCEL	**Value:** 256
HWPALETTE	**Value:** 536870912
HWSURFACE	**Value:** 1
IYUV_OVERLAY	**Value:** 1448433993
JOYAXISMOTION	**Value:** 7
JOYBALLMOTION	**Value:** 8
JOYBUTTONDOWN	**Value:** 10
JOYBUTTONUP	**Value:** 11
JOYHATMOTION	**Value:** 9
KEYDOWN	**Value:** 2
KEYUP	**Value:** 3
KMOD_ALT	**Value:** 768
KMOD_CAPS	**Value:** 8192
KMOD_CTRL	**Value:** 192
KMOD_LALT	**Value:** 256
KMOD_LCTRL	**Value:** 64
KMOD_LMETA	**Value:** 1024
KMOD_LSHIFT	**Value:** 1
KMOD_META	**Value:** 3072
KMOD_MODE	**Value:** 16384
KMOD_NONE	**Value:** 0
KMOD_NUM	**Value:** 4096
KMOD_RALT	**Value:** 512
KMOD_RCTRL	**Value:** 128
KMOD_RMETA	**Value:** 2048
KMOD_RSHIFT	**Value:** 2
KMOD_SHIFT	**Value:** 3
K_0	**Value:** 48
K_1	**Value:** 49
K_2	**Value:** 50
K_3	**Value:** 51
K_4	**Value:** 52
K_5	**Value:** 53

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Name	Description
K_6	**Value:** 54
K_7	**Value:** 55
K_8	**Value:** 56
K_9	**Value:** 57
K_AMPERSAND	**Value:** 38
K_ASTERISK	**Value:** 42
K_AT	**Value:** 64
K_BACKQUOTE	**Value:** 96
K_BACKSLASH	**Value:** 92
K_BACKSPACE	**Value:** 8
K_BREAK	**Value:** 318
K_CAPSLOCK	**Value:** 301
K_CARET	**Value:** 94
K_CLEAR	**Value:** 12
K_COLON	**Value:** 58
K_COMMA	**Value:** 44
K_DELETE	**Value:** 127
K_DOLLAR	**Value:** 36
K_DOWN	**Value:** 274
K_END	**Value:** 279
K_EQUALS	**Value:** 61
K_ESCAPE	**Value:** 27
K_EURO	**Value:** 321
K_EXCLAIM	**Value:** 33
K_F1	**Value:** 282
K_F10	**Value:** 291
K_F11	**Value:** 292
K_F12	**Value:** 293
K_F13	**Value:** 294
K_F14	**Value:** 295
K_F15	**Value:** 296
K_F2	**Value:** 283
K_F3	**Value:** 284
K_F4	**Value:** 285
K_F5	**Value:** 286
K_F6	**Value:** 287
K_F7	**Value:** 288
K_F8	**Value:** 289
K_F9	**Value:** 290
K_FIRST	**Value:** 0
K_GREATER	**Value:** 62
K_HASH	**Value:** 35
K_HELP	**Value:** 315
K_HOME	**Value:** 278
K_INSERT	**Value:** 277
K_KP0	**Value:** 256
K_KP1	**Value:** 257
K_KP2	**Value:** 258
K_KP3	**Value:** 259
K_KP4	**Value:** 260

continued on next page

Name	Description
K_KP5	**Value:** 261
K_KP6	**Value:** 262
K_KP7	**Value:** 263
K_KP8	**Value:** 264
K_KP9	**Value:** 265
K_KP_DIVIDE	**Value:** 267
K_KP_ENTER	**Value:** 271
K_KP_EQUALS	**Value:** 272
K_KP_MINUS	**Value:** 269
K_KP_MULTIPLY	**Value:** 268
K_KP_PERIOD	**Value:** 266
K_KP_PLUS	**Value:** 270
K_LALT	**Value:** 308
K_LAST	**Value:** 323
K_LCTRL	**Value:** 306
K_LEFT	**Value:** 276
K_LEFTBRACKET	**Value:** 91
K_LEFTPAREN	**Value:** 40
K_LESS	**Value:** 60
K_LMETA	**Value:** 310
K_LSHIFT	**Value:** 304
K_LSUPER	**Value:** 311
K_MENU	**Value:** 319
K_MINUS	**Value:** 45
K_MODE	**Value:** 313
K_NUMLOCK	**Value:** 300
K_PAGEDOWN	**Value:** 281
K_PAGEUP	**Value:** 280
K_PAUSE	**Value:** 19
K_PERIOD	**Value:** 46
K_PLUS	**Value:** 43
K_POWER	**Value:** 320
K_PRINT	**Value:** 316
K_QUESTION	**Value:** 63
K_QUOTE	**Value:** 39
K_QUOTEDBL	**Value:** 34
K_RALT	**Value:** 307
K_RCTRL	**Value:** 305
K_RETURN	**Value:** 13
K_RIGHT	**Value:** 275
K_RIGHTBRACKET	**Value:** 93
K_RIGHTPAREN	**Value:** 41
K_RMETA	**Value:** 309
K_RSHIFT	**Value:** 303
K_RSUPER	**Value:** 312
K_SCROLLOCK	**Value:** 302
K_SEMICOLON	**Value:** 59
K_SLASH	**Value:** 47
K_SPACE	**Value:** 32
K_SYSREQ	**Value:** 317

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Name	Description
K_TAB	**Value:** 9
K_UNDERSCORE	**Value:** 95
K_UNKNOWN	**Value:** 0
K_UP	**Value:** 273
K_a	**Value:** 97
K_b	**Value:** 98
K_c	**Value:** 99
K_d	**Value:** 100
K_e	**Value:** 101
K_f	**Value:** 102
K_g	**Value:** 103
K_h	**Value:** 104
K_i	**Value:** 105
K_j	**Value:** 106
K_k	**Value:** 107
K_l	**Value:** 108
K_m	**Value:** 109
K_n	**Value:** 110
K_o	**Value:** 111
K_p	**Value:** 112
K_q	**Value:** 113
K_r	**Value:** 114
K_s	**Value:** 115
K_t	**Value:** 116
K_u	**Value:** 117
K_v	**Value:** 118
K_w	**Value:** 119
K_x	**Value:** 120
K_y	**Value:** 121
K_z	**Value:** 122
LIL_ENDIAN	**Value:** 1234
MOUSEBUTTONDOWN	**Value:** 5
MOUSEBUTTONUP	**Value:** 6
MOUSEMOTION	**Value:** 4
NOEVENT	**Value:** 0
NOFRAME	**Value:** 32
NUMEVENTS	**Value:** 32
OPENGL	**Value:** 2
OPENGLBLIT	**Value:** 10
PREALLOC	**Value:** 16777216
QUIT	**Value:** 12
RESIZABLE	**Value:** 16
RLEACCEL	**Value:** 16384
RLEACCELOK	**Value:** 8192
SCRAP_BMP	**Value:** 'image/bmp'
SCRAP_CLIPBOARD	**Value:** 0
SCRAP_PBM	**Value:** 'image/pbm'
SCRAP_PPM	**Value:** 'image/ppm'
SCRAP_SELECTION	**Value:** 1
SCRAP_TEXT	**Value:** 'text/plain'

continued on next page

Name	Description
SRCALPHA	**Value:** `65536`
SRCCOLORKEY	**Value:** `4096`
SWSURFACE	**Value:** `0`
SYSWMEVENT	**Value:** `13`
TIMER_RESOLUTION	**Value:** `10`
USEREVENT	**Value:** `24`
UYVY_OVERLAY	**Value:** `1498831189`
VIDEOEXPOSE	**Value:** `17`
VIDEORESIZE	**Value:** `16`
YUY2_OVERLAY	**Value:** `844715353`
YV12_OVERLAY	**Value:** `842094169`
YVYU_OVERLAY	**Value:** `1431918169`
__package__	**Value:** `'pystroke'`

9.2 Class InputEngine

Receives input events from an EventEngine and uses them to maintain an up- to-date keyboard/mouse state

Author: James Heslin (PROGRAM_IX)

9.2.1 Methods

__init__(*self*)

Constructs a new InputEngine

Author: James Heslin (PROGRAM_IX)

mouse_motion(*self*, *event*)

Processes MOUSEMOTION events

Parameters

`event`: A MOUSEMOTION event

(type=pygame.Event)

Author: James Heslin (PROGRAM_IX)

mouse_b_down(*self*, *event*)

Processes MOUSEBUTTONDOWN events

Parameters

`event`: A MOUSEBUTTONDOWN event

(type=pygame.Event)

Author: James Heslin (PROGRAM_IX)

mouse_b_up(*self*, *event*)

Processes MOUSEBUTTONUP events

Parameters

`event:` A MOUSEBUTTONUP event

(type=pygame.Event)

Author: James Heslin (PROGRAM_IX)

key_down(*self*, *event*)

Processes KEYDOWN events

Parameters

`event:` A KEYDOWN event

(type=pygame.Event)

Author: James Heslin (PROGRAM_IX)

key_up(*self*, *event*)

Processes KEYUP events

Parameters

`event:` A KEYUP event

(type=pygame.Event)

Author: James Heslin (PROGRAM_IX)

print_all_states(*self*)

Print the states of all tracked inputs

Author: James Heslin (PROGRAM_IX)

10 Module pystroke.vector2

10.1 Variables

Name	Description
___package___	**Value:** `'pystroke'`

10.2 Class Vector2

A two-dimensional vector

Author: James Heslin (PROGRAM_IX)

10.2.1 Methods

___init___(*self*, *x*=`0.0`, *y*=`0.0`)

Constructs a new Vector2

Parameters

`x`: X (horizontal) co-ordinate of vector

(type=double)

`y`: Y (vertical) co-ordinate of vector

(type=double)

Author: James Heslin (PROGRAM_IX)

___str___(*self*)

Returns a string with the vector's co-ordinates

Return Value

A string containing the vector's co-ordinates

(type=string)

Author: James Heslin (PROGRAM_IX)

from_points(*a*, *b*)

Returns a new Vector2 with the co-ordinates of the difference between the two points

Parameters

`a:` The first point to use in constructing the new Vector2

(type=tuple/list of two ints)

`b:` The second point to use in constructing the new Vector2

(type=tuple/list of two ints)

Return Value

A new Vector2 constructed from the inputted points

(type=Vector2)

Author: James Heslin (PROGRAM_IX)

get_magnitude(*self*)

Returns the magnitude of the vector

Return Value

The magnitude of the vector

(type=double)

Author: James Heslin (PROGRAM_IX)

normalised(*self*)

Returns a normalised copy of the vector

Return Value

Normalised copy of the vector

(type=Vector2)

Author: James Heslin (PROGRAM_IX)

dot_product(*self*, *other*)

Returns the dot product of the vector and the input vector

Parameters

`other:` The vector to dot product against

(type=Vector2)

Return Value

The dot product of the vector and the input vector

(type=double)

Author: James Heslin (PROGRAM_IX)

cross_product(*self*, *other*)

Returns the cross product of the vector and the input vector

Parameters

`other:` The vector to cross product against

(type=Vector2)

Return Value

The cross product of the vector and the input vector

(type=double)

Author: James Heslin (PROGRAM_IX)

clamp(*x*, *a*, *b*)

'Clamp' the value of x between a and b, i.e., return x if it is between a and b, a if x is lower than a, and b if x is larger than b

Parameters

`x:` The number to clamp

(type=double)

`a:` The lower bound of x's clamp

(type=double)

`b:` The upper bound of x's clamp

(type=double)

Return Value

The clamped value of x

(type=double)

Author: James Heslin (PROGRAM_IX)

radians_between(*self*, *other*)

Return the radians between the vector and the input vector

Parameters

`other:` The other vector making the angle

(type=Vector2)

Return Value

The number of radians between the vector and the input vector

TODO: Determine if this actually works, it's not being used

(type=double)

Author: James Heslin (PROGRAM_IX)

get_angle(*self*)

Returns the angle this vector is pointing to

Return Value

The angle this vector points to (in radians)

(type=double)

Author: James Heslin (PROGRAM_IX)

___add___(*self*, *other*)

Add the vector to other and return the result

Parameters

`other:` The vector to add

(type=Vector2)

Return Value

The result of the vector being added to other

(type=Vector2)

Author: James Heslin (PROGRAM_IX)

___sub___(*self*, *other*)

Subtract other from the vector and return the result

Parameters

`other:` The vector to subtract

(type=Vector2)

Return Value

The result of other being subtracted from the vector

(type=Vector2)

Author: James Heslin (PROGRAM_IX)

___neg___(*self*)

Negate the vector and return the result

Return Value

The negated vector

(type=Vector2)

Author: James Heslin (PROGRAM_IX)

___mul___(*self*, *sca*)

Multiply the vector by other and return the result

Parameters

`sca`: The scalar to multiply by

(type=double)

Return Value

The result of the vector being multiplied by sca

(type=Vector2)

Author: James Heslin (PROGRAM_IX)

___div___(*self*, *sca*)

Divide the vector by sca and return the result

Parameters

`sca`: The scalar to divide by

(type=double)

Return Value

The result of the vector being divided by sca

(type=Vector2)

Author: James Heslin (PROGRAM_IX)

11 Module pystroke.vex

11.1 Variables

Name	Description
ACTIVEEVENT	**Value:** 1
ANYFORMAT	**Value:** 268435456
ASYNCBLIT	**Value:** 4
AUDIO_S16	**Value:** 32784
AUDIO_S16LSB	**Value:** 32784
AUDIO_S16MSB	**Value:** 36880
AUDIO_S16SYS	**Value:** 32784
AUDIO_S8	**Value:** 32776
AUDIO_U16	**Value:** 16
AUDIO_U16LSB	**Value:** 16
AUDIO_U16MSB	**Value:** 4112
AUDIO_U16SYS	**Value:** 16
AUDIO_U8	**Value:** 8
BIG_ENDIAN	**Value:** 4321
BLEND_ADD	**Value:** 1
BLEND_MAX	**Value:** 5
BLEND_MIN	**Value:** 4
BLEND_MULT	**Value:** 3
BLEND_RGBA_ADD	**Value:** 6
BLEND_RGBA_MAX	**Value:** 16
BLEND_RGBA_MIN	**Value:** 9
BLEND_RGBA_MULT	**Value:** 8
BLEND_RGBA_SUB	**Value:** 7
BLEND_RGB_ADD	**Value:** 1
BLEND_RGB_MAX	**Value:** 5
BLEND_RGB_MIN	**Value:** 4
BLEND_RGB_MULT	**Value:** 3
BLEND_RGB_SUB	**Value:** 2
BLEND_SUB	**Value:** 2
BUTTON_X1	**Value:** 6
BUTTON_X2	**Value:** 7
DOUBLEBUF	**Value:** 1073741824
FULLSCREEN	**Value:** -2147483648
GL_ACCELERATED_VISUAL	**Value:** 15
GL_ACCUM_ALPHA_SIZE	**Value:** 11
GL_ACCUM_BLUE_SIZE	**Value:** 10
GL_ACCUM_GREEN_SIZE	**Value:** 9
GL_ACCUM_RED_SIZE	**Value:** 8
GL_ALPHA_SIZE	**Value:** 3
GL_BLUE_SIZE	**Value:** 2
GL_BUFFER_SIZE	**Value:** 4
GL_DEPTH_SIZE	**Value:** 6
GL_DOUBLEBUFFER	**Value:** 5
GL_GREEN_SIZE	**Value:** 1

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Name	Description
GL_MULTISAMPLEBUFFERS	**Value:** 13
GL_MULTISAMPLESAMPLES	**Value:** 14
GL_RED_SIZE	**Value:** 0
GL_STENCIL_SIZE	**Value:** 7
GL_STEREO	**Value:** 12
GL_SWAP_CONTROL	**Value:** 16
HAT_CENTERED	**Value:** 0
HAT_DOWN	**Value:** 4
HAT_LEFT	**Value:** 8
HAT_LEFTDOWN	**Value:** 12
HAT_LEFTUP	**Value:** 9
HAT_RIGHT	**Value:** 2
HAT_RIGHTDOWN	**Value:** 6
HAT_RIGHTUP	**Value:** 3
HAT_UP	**Value:** 1
HWACCEL	**Value:** 256
HWPALETTE	**Value:** 536870912
HWSURFACE	**Value:** 1
IYUV_OVERLAY	**Value:** 1448433993
JOYAXISMOTION	**Value:** 7
JOYBALLMOTION	**Value:** 8
JOYBUTTONDOWN	**Value:** 10
JOYBUTTONUP	**Value:** 11
JOYHATMOTION	**Value:** 9
KEYDOWN	**Value:** 2
KEYUP	**Value:** 3
KMOD_ALT	**Value:** 768
KMOD_CAPS	**Value:** 8192
KMOD_CTRL	**Value:** 192
KMOD_LALT	**Value:** 256
KMOD_LCTRL	**Value:** 64
KMOD_LMETA	**Value:** 1024
KMOD_LSHIFT	**Value:** 1
KMOD_META	**Value:** 3072
KMOD_MODE	**Value:** 16384
KMOD_NONE	**Value:** 0
KMOD_NUM	**Value:** 4096
KMOD_RALT	**Value:** 512
KMOD_RCTRL	**Value:** 128
KMOD_RMETA	**Value:** 2048
KMOD_RSHIFT	**Value:** 2
KMOD_SHIFT	**Value:** 3
K_0	**Value:** 48
K_1	**Value:** 49
K_2	**Value:** 50
K_3	**Value:** 51
K_4	**Value:** 52
K_5	**Value:** 53

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Name	Description
K_6	**Value:** 54
K_7	**Value:** 55
K_8	**Value:** 56
K_9	**Value:** 57
K_AMPERSAND	**Value:** 38
K_ASTERISK	**Value:** 42
K_AT	**Value:** 64
K_BACKQUOTE	**Value:** 96
K_BACKSLASH	**Value:** 92
K_BACKSPACE	**Value:** 8
K_BREAK	**Value:** 318
K_CAPSLOCK	**Value:** 301
K_CARET	**Value:** 94
K_CLEAR	**Value:** 12
K_COLON	**Value:** 58
K_COMMA	**Value:** 44
K_DELETE	**Value:** 127
K_DOLLAR	**Value:** 36
K_DOWN	**Value:** 274
K_END	**Value:** 279
K_EQUALS	**Value:** 61
K_ESCAPE	**Value:** 27
K_EURO	**Value:** 321
K_EXCLAIM	**Value:** 33
K_F1	**Value:** 282
K_F10	**Value:** 291
K_F11	**Value:** 292
K_F12	**Value:** 293
K_F13	**Value:** 294
K_F14	**Value:** 295
K_F15	**Value:** 296
K_F2	**Value:** 283
K_F3	**Value:** 284
K_F4	**Value:** 285
K_F5	**Value:** 286
K_F6	**Value:** 287
K_F7	**Value:** 288
K_F8	**Value:** 289
K_F9	**Value:** 290
K_FIRST	**Value:** 0
K_GREATER	**Value:** 62
K_HASH	**Value:** 35
K_HELP	**Value:** 315
K_HOME	**Value:** 278
K_INSERT	**Value:** 277
K_KP0	**Value:** 256
K_KP1	**Value:** 257
K_KP2	**Value:** 258
K_KP3	**Value:** 259
K_KP4	**Value:** 260

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Name	Description
K_KP5	**Value:** 261
K_KP6	**Value:** 262
K_KP7	**Value:** 263
K_KP8	**Value:** 264
K_KP9	**Value:** 265
K_KP_DIVIDE	**Value:** 267
K_KP_ENTER	**Value:** 271
K_KP_EQUALS	**Value:** 272
K_KP_MINUS	**Value:** 269
K_KP_MULTIPLY	**Value:** 268
K_KP_PERIOD	**Value:** 266
K_KP_PLUS	**Value:** 270
K_LALT	**Value:** 308
K_LAST	**Value:** 323
K_LCTRL	**Value:** 306
K_LEFT	**Value:** 276
K_LEFTBRACKET	**Value:** 91
K_LEFTPAREN	**Value:** 40
K_LESS	**Value:** 60
K_LMETA	**Value:** 310
K_LSHIFT	**Value:** 304
K_LSUPER	**Value:** 311
K_MENU	**Value:** 319
K_MINUS	**Value:** 45
K_MODE	**Value:** 313
K_NUMLOCK	**Value:** 300
K_PAGEDOWN	**Value:** 281
K_PAGEUP	**Value:** 280
K_PAUSE	**Value:** 19
K_PERIOD	**Value:** 46
K_PLUS	**Value:** 43
K_POWER	**Value:** 320
K_PRINT	**Value:** 316
K_QUESTION	**Value:** 63
K_QUOTE	**Value:** 39
K_QUOTEDBL	**Value:** 34
K_RALT	**Value:** 307
K_RCTRL	**Value:** 305
K_RETURN	**Value:** 13
K_RIGHT	**Value:** 275
K_RIGHTBRACKET	**Value:** 93
K_RIGHTPAREN	**Value:** 41
K_RMETA	**Value:** 309
K_RSHIFT	**Value:** 303
K_RSUPER	**Value:** 312
K_SCROLLOCK	**Value:** 302
K_SEMICOLON	**Value:** 59
K_SLASH	**Value:** 47
K_SPACE	**Value:** 32
K_SYSREQ	**Value:** 317

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Name	Description
K_TAB	**Value:** 9
K_UNDERSCORE	**Value:** 95
K_UNKNOWN	**Value:** 0
K_UP	**Value:** 273
K_a	**Value:** 97
K_b	**Value:** 98
K_c	**Value:** 99
K_d	**Value:** 100
K_e	**Value:** 101
K_f	**Value:** 102
K_g	**Value:** 103
K_h	**Value:** 104
K_i	**Value:** 105
K_j	**Value:** 106
K_k	**Value:** 107
K_l	**Value:** 108
K_m	**Value:** 109
K_n	**Value:** 110
K_o	**Value:** 111
K_p	**Value:** 112
K_q	**Value:** 113
K_r	**Value:** 114
K_s	**Value:** 115
K_t	**Value:** 116
K_u	**Value:** 117
K_v	**Value:** 118
K_w	**Value:** 119
K_x	**Value:** 120
K_y	**Value:** 121
K_z	**Value:** 122
LIL_ENDIAN	**Value:** 1234
MOUSEBUTTONDOWN	**Value:** 5
MOUSEBUTTONUP	**Value:** 6
MOUSEMOTION	**Value:** 4
NOEVENT	**Value:** 0
NOFRAME	**Value:** 32
NUMEVENTS	**Value:** 32
OPENGL	**Value:** 2
OPENGLBLIT	**Value:** 10
PREALLOC	**Value:** 16777216
QUIT	**Value:** 12
RESIZABLE	**Value:** 16
RLEACCEL	**Value:** 16384
RLEACCELOK	**Value:** 8192
SCRAP_BMP	**Value:** 'image/bmp'
SCRAP_CLIPBOARD	**Value:** 0
SCRAP_PBM	**Value:** 'image/pbm'
SCRAP_PPM	**Value:** 'image/ppm'
SCRAP_SELECTION	**Value:** 1
SCRAP_TEXT	**Value:** 'text/plain'

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Name	Description
SRCALPHA	**Value:** `65536`
SRCCOLORKEY	**Value:** `4096`
SWSURFACE	**Value:** `0`
SYSWMEVENT	**Value:** `13`
TIMER_RESOLUTION	**Value:** `10`
USEREVENT	**Value:** `24`
UYVY_OVERLAY	**Value:** `1498831189`
VIDEOEXPOSE	**Value:** `17`
VIDEORESIZE	**Value:** `16`
YUY2_OVERLAY	**Value:** `844715353`
YV12_OVERLAY	**Value:** `842094169`
YVYU_OVERLAY	**Value:** `1431918169`
___package___	**Value:** `'pystroke'`

11.2 Class Vex

Vector sprite class (consider renaming) - consists of a list of points which are rendered relative to an x and y at draw time

Author: James Heslin (PROGRAM_IX)

11.2.1 Methods

___str___(*self*)

Returns a string containing the x and y of the vector sprite

Return Value

A string containing the x and y of the vector sprite

(type=string)

Author: James Heslin (PROGRAM_IX)

___init___(*self*, *x*, *y*, *colour*, *points*, *width*)

Constructs a new Vex

Parameters

`x:` The X (horizontal) co-ordinate of the vector sprite

(type=int)

`y:` The Y (vertical) co-ordinate of the vector sprite

(type=int)

`colour:` The colour of the vector sprite

(type=pygame.Color)

`points:` The points that make up the vector sprite

(type=list/tuple of tuples (int, int))

`width:` The width of the vector sprite's lines

(type=int)

Author: James Heslin (PROGRAM_IX)

dir_vec(*self*)

Return a copy of the vector sprite's direction vector (the first vector in its list of points), adjusted to have absolute co-ordinates

Return Value

A copy of the vector sprites's direction vector, with absolute co-ordinates

(type=Vector2)

Author: James Heslin (PROGRAM_IX)

draw(*self*, *surface*)

Renders the vector sprite to the surface specified

Parameters

`surface:` The surface onto which the vector sprite is to be rendered

(type=pygame.Surface)

Author: James Heslin (PROGRAM_IX)

update(*self*, *surface*)

Updates the vector sprite with respect to the specified surface

Parameters

`surface:` The surface to update the vector sprite against

(type=pygame.Surface)

Author: James Heslin (PROGRAM_IX)

distance_to(*self*, *p*)

Returns the distance between the centre of the vector sprite and the specified point

Parameters

`p`: The point to compare to the vector sprite

(type=Vector2)

Return Value

The distance between the centre of the vector sprite and the specified point

(type=double)

Author: James Heslin (PROGRAM_IX)

vector_between(*self*, *p*)

Returns the vector between the vector sprite and the specified point

Parameters

`p`: The point to compare to the vector sprite

(type=Vector2)

Return Value

The vector between the vector sprite and the specified point

(type=Vector2)

Author: James Heslin (PROGRAM_IX)

angle_to_face_point(*self*, *p*)

Return the rotation angle (in radians) required for the vector sprite to face a specified point (face: the vector sprite's direction vector is pointing towards the point)

Parameters

`p`: The point to face

(type=Vector2)

Return Value

The rotation angle (in radians) required for the vector sprite to face p

(type=double)

Author: James Heslin (PROGRAM_IX)

rotate_to_face_point(*self*, *p*)

Rotate the vex to face a specified point

Parameters

`p`: The point to face

(type=Vector2)

Author: James Heslin (PROGRAM_IX)

rotate_by_radians(*self*, *a*)

Rotate the shape by a given number of radians

Parameters

`a:` The number of radians to rotate the vector sprite by

(type=double)

Author: James Heslin (PROGRAM_IX)

move(*self*, *x*, *y*, *surface*)

Move the vector sprite in the X/Y plane without leaving the bounds of the specified surface

Parameters

`x:` The X (horizontal) movement amount

(type=double)

`y:` The Y (vertical) movement amount

(type=double)

`surface:` The surface to use to restrict the movement of the vector sprite

(type=pygame.Surface)

Author: James Heslin (PROGRAM_IX)

get_relative_points_tuple(*self*)

Returns a list of 2D points as tuples, relative to vector sprite position

Return Value

A list of tuples representing the points in the vector sprite, with co-ordinates relative to the vector sprite's position

(type=list of tuples (int, int))

Author: James Heslin (PROGRAM_IX)

get_absolute_points_tuple(*self*)

Returns a list of 2D points as tuples, relative to origin

Return Value

A list of tuples representing the points in the vector sprite, with co-ordinates relative to the origin

(type=list of tuples (int, int))

Author: James Heslin (PROGRAM_IX)

get_relative_points_vector2(*self*)

Returns a list of Vector2 objects representing 2D points, relative to vector sprite position

Return Value

A list of Vector2 objects representing the points in the vector sprite, with co-ordinates relative to the vector sprite's position

(type=list of Vector2 objects)

Author: James Heslin (PROGRAM_IX)

get_absolute_points_vector2(*self*)

Returns a list of Vector2 objects representing 2D points, relative to origin

Return Value

A list of Vector2 objects representing the points in the vector sprite, with co-ordinates relative to the origin

(type=list of Vector2 objects)

Author: James Heslin (PROGRAM_IX)

point_inside(*self*, *v*)

Determines roughly if a given point is inside the vector sprite, can be used for crude collision detection

Parameters

`v`: The point to check

(type=Vector2)

Return Value

True if the point is inside the vector sprite, False otherwise

(type=boolean)

Author: James Heslin (PROGRAM_IX)

11.2.2 Class Variables

Name	Description
radius	**Value:** `20`

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