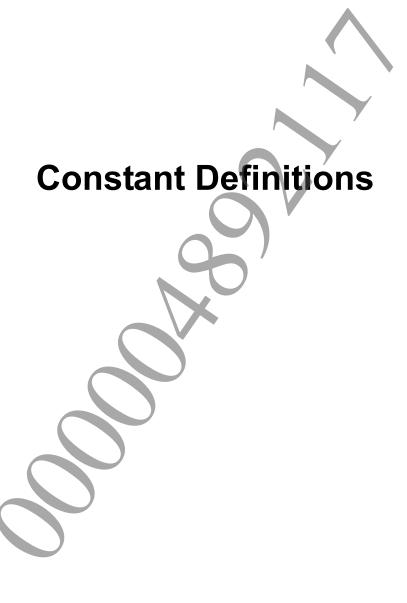


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# **Gesture Types**

Definitions of types of gestures supported by library

#### **Definition**

#### **Description**

These constants are the definition values of the types of gestures supported by libsystemgesture. They are used when generating a touch gesture recognizer using

```
sceSystemGestureCreateTouchRecognizer().
```

Currently, five types of gestures are supported: Tap, Drag, Tap and Hold, Pinch Out/In, and Rotation. For details, refer to the description of sceSystemGestureCreateTouchRecognizer().

# See Also

sceSystemGestureCreateTouchRecognizer()

# **Touch Event States**

Definitions of states in which primitive touch events and various touch events such as Tap can take place

# **Definition**

# **Description**

These constants are the definition values of the states in which primitive touch events and touch events such as Tap, Drag, and Tap and Hold can take place.

For details on primitive events, refer to <code>SceSystemGesturePrimitiveTouchEvent</code>, and for details on touch events such as Tap, refer to <code>SceSystemGestureTouchEvent</code>.

#### See Also

SceSystemGesturePrimitiveTouchEvent,SceSystemGestureTouchEvent



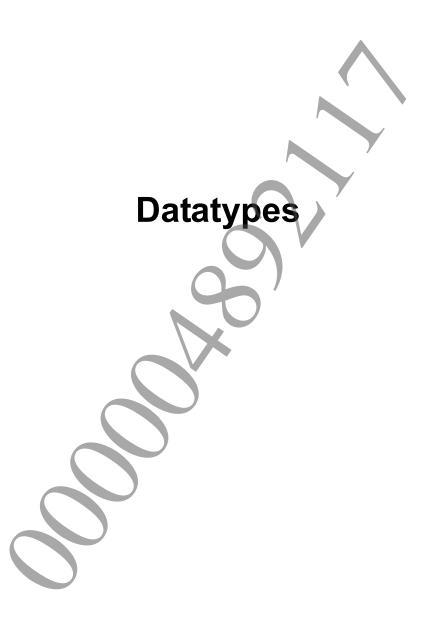
# **Error Codes**

# List of error codes

# Definition

Value	Hexadecimal	Description
SCE_SYSTEM_GESTURE_ERROR_INVALID_ARGUMENT	0x80890001	An invalid argument was specified
		specified
SCE_SYSTEM_GESTURE_ERROR_NOT_SUPPORTED_GESTURE	0x80890002	An unsupported gesture was specified
SCE_SYSTEM_GESTURE_ERROR_NOT_INITIALIZED	0x80890003	The gesture recognizer was not initialized
SCE_SYSTEM_GESTURE_ERROR_INDEX_OUT_OF_ARRAY	0x80890004	The specified <i>index</i> exceeds the array range
SCE_SYSTEM_GESTURE_ERROR_EVENT_DATA_NOT_FOUND	0x80890005	No event data could be found





# SceSystemGestureVector2

Structure to which the touch position and travel amount are saved

#### **Definition**

```
#include <systemgesture.h>
typedef struct SceSystemGestureVector2
        SceInt16 x;
        SceInt16 y;
```

} SceSystemGestureVector2;

# **Members**

- x coordinate component
- y coordinate component

## **Description**

This is a structure to which the touch position and travel amount are saved. The touch panel coordinate system values are used for the *x* and *y* components.

#### See Also

 ${\tt SceSystemGesturePrimitiveTouchEvent}, {\tt SceSystemGestureTouchEvent}$ 



# SceSystemGestureRectangle

Structure to which the target rectangle of the touch gesture recognizer is stored

#### **Definition**

} SceSystemGestureRectangle;

#### **Members**

x x coordinate of top-left point of rectangle
 y y coordinate of top-left point of rectangle
 width Width of rectangle
 height Height of rectangle

#### **Description**

This is a structure to which the target rectangle of the touch gesture recognizer is stored. The touch panel coordinate system values are used for the position and size.

#### See Also

sceSystemGestureCreateTouchRecognizer(),
sceSystemGestureUpdateTouchRecognizerRectangle()



# **SceSystemGesturePrimitiveTouchEvent**

# Structure for primitive touch events

#### **Definition**

# } SceSystemGesturePrimitiveTouchEvent

#### **Members**

eventState State of primitive touch event ID of primitive touch event. primitiveID The touch panel port number is stored in the top 8 bits Pressed position pressedPosition Touch force used to press touch panel pressedForce Current touch position *currentPosition currentForce* Force of current touch deltaVector Amount of travel from last data update deltaForce Change in touch force from last data update deltaTime Time elapsed since last data update (microsec) elapsedTime Time elapsed since press (microsecond) reserved Reserved area

#### Description

This is a structure for primitive touch events. There are four primitive touch events, namely pressing the touch panel with a finger (Begin), maintaining contact with the touch panel with a finger (Active), releasing the touch panel by lifting one's finger off the touch panel (End), and not touching the touch panel with a finger (Inactive).

#### See Also

```
sceSystemGestureGetPrimitiveTouchEvents(),
sceSystemGestureGetPrimitiveTouchEventByIndex(),
sceSystemGestureGetPrimitiveTouchEventByPrimitiveID()
```

# SceSystemGesturePrimitiveTouchRecognizerParam eter

Parameter for initializing primitive touch gesture recognizer

# **Definition**

#### **Members**

reserved Reserved area

### **Description**

This is the parameter for sceSystemGestureInitializePrimitiveTouchRecognizer(). It is provided for future expansion.



# SceSystemGestureTouchRecognizer

Structure to which the work area of the touch gesture recognizer is stored

#### **Definition**

#### **Members**

reserved Reserved area

#### **Description**

This is a structure to which the work area of the touch gesture recognizer is stored. It is initialized using sceSystemGestureCreateTouchRecognizer().

#### See Also

sceSystemGestureCreateTouchRecognizer()



# SceSystemGestureTouchRecognizerInformation

Structure for getting the information of the touch gesture recognizer

#### **Definition**

#### **Members**

gestureType Type of gesture

touchPanelPortID Touch panel port number for recognition

rectangle Rectangle area for recognition

updatedTimeTime of last updatereservedReserved area

### **Description**

This is a structure for getting the information of the touch gesture recognizer. Acquisition is done with sceSystemGestureGetTouchRecognizerInformation().

#### See Also

sceSystemGestureCreateTouchRecognizer()



# SceSystemGestureTouchRecognizerParameter

Union of parameters for initialization of gesture recognizers

#### **Definition**

} SceSystemGestureTouchRecognizerParameter;

### **Members**

parameterBufParameter buffer areatapTap gesture recognizer parameterdragDrag gesture recognizer parametertapAndHoldTap and Hold gesture recognizer parameterpinchOutInPinch Out/In gesture recognizer parameterrotationRotation gesture recognizer parameter

#### Description

This is the union of the setting parameters for the initialization of gesture recognizers. It is used when creating gesture recognizers with <code>sceSystemGestureCreateTouchRecognizer()</code>. For the parameters that can be set for the various gesture recognizers, refer to the sections describing the structures of gesture recognizer parameters.

#### See Also

sceSystemGestureCreateTouchRecognizer()

# SceSystemGestureTapRecognizerParameter

Structure to which the Tap gesture recognizer initialization parameter is stored

#### **Definition**

#### **Members**

maxTapCount Maximum continuous count when Tap gestures are being continuously performed reserved Reserved area

### **Description**

This is a structure to which the Tap gesture recognizer initialization parameter is stored. It is passed as an argument when <code>sceSystemGestureCreateTouchRecognizer()</code> is used. Set a value of 1 or greater for <code>maxTapCount</code>. If 0 is specified, it is considered that 1 was specified and the Tap gesture recognizer is initialized.

When 1 is set for <code>maxTapCount</code>, the system judges that a Tap gesture has occurred in an instant when the finger breaks off contact with the touch panel (the touch panel is released). When a value of 2 or greater is set for <code>maxTapCount</code>, for Tap gestures up to <code>maxTapCount -1</code>, a Tap gesture is judged to have occurred following the lapse of a preset time from the time when the touch panel is released. For example, when <code>maxTapCount</code> is set to 3 and the touch panel is tapped once or twice in succession, a Tap gesture event occurs following the lapse of the preset time from when the touch screen was released. If the touch panel is tapped three times in succession, a Tap gesture event occurs the instant the touch panel is released.

If the gesture recognizer is initialized by calling sceSystemGestureCreateTouchRecognizer() with specifying NULL to touchRecognizerParameter without using this structure, it is considered that 1 (time) was specified as the value of maxTapCount and the Tap gesture recognizer is initialized.

#### See Also

SceSystemGestureTouchRecognizerParameter,
sceSystemGestureCreateTouchRecognizer()

# SceSystemGestureDragRecognizerParameter

Structure to which the Drag gesture recognizer initialization parameter is stored

#### **Definition**

} SceSystemGestureDragRecognizerParameter;

#### **Members**

reserved Reserved area

### **Description**

This is a structure to which the Drag gesture recognizer initialization parameter is stored. Currently no parameters can be set.

#### See Also

SceSystemGestureTouchRecognizerParameter
sceSystemGestureCreateTouchRecognizer()



# SceSystemGestureTapAndHoldRecognizerParameter

Structure to which the Tap and Hold gesture recognizer initialization parameter is stored

#### **Definition**

#### **Members**

timeToInvokeEvent Time until a Tap and Hold event occurs after the touch panel is pressed (millisecond)

reserved Reserved area

#### Description

This is a structure to which the Tap and Hold gesture recognizer initialization parameter is stored. Whether a Tap and Hold gesture occurred is judged when the time specified to <code>timeToInvokeEvent</code> has lapsed after the finger has pressed the touch panel.

If the gesture recognizer is initialized by calling sceSystemGestureCreateTouchRecognizer() with specifying NULL to touchRecognizerParameter without using this structure, it is considered that 1000 (milliseconds) was specified as the value of timeToInvokeEvent and the Tap and Hold gesture recognizer is initialized.

### See Also

SceSystemGestureTouchRecognizerParameter,
sceSystemGestureCreateTouchRecognizer()



# SceSystemGesturePinchOutInRecognizerParameter

Structure to which the Pinch Out/In gesture recognizer initialization parameter is stored

#### **Definition**

} SceSystemGesturePinchOutInRecognizerParameter;

#### **Members**

reserved Reserved area

### **Description**

This is a structure to which the Pinch Out/In gesture recognizer initialization parameter is stored. Currently no parameters can be set.

#### See Also

SceSystemGestureTouchRecognizerParameter
sceSystemGestureCreateTouchRecognizer()



# SceSystemGestureRotationRecognizerParameter

Structure to which the Rotation gesture recognizer initialization parameter is stored

#### **Definition**

} SceSystemGestureRotationRecognizerParameter;

#### **Members**

reserved Reserved area

# **Description**

This is a structure to which the Rotation gesture recognizer initialization parameter is stored. Currently no parameters can be set.

#### See Also

SceSystemGestureTouchRecognizerParameter
sceSystemGestureCreateTouchRecognizer()



# **SceSystemGestureTouchEvent**

# Structure for touch gesture events

#### **Definition**

```
#include <systemgesture.h>
typedef struct SceSystemGestureTouchEvent
        SceUInt32 eventID;
        SceSystemGestureTouchState eventState;
        SceSystemGestureType gestureType;
        SceUInt8 padding[4];
        SceUInt64 updatedTime;
        union {
              SceUInt8 propertyBuf[ 64 ];
              SceSystemGestureTapEventProperty tap;
              SceSystemGestureDragEventProperty drag;
              SceSystemGestureTapAndHoldEventProperty tapAndHold;
              SceSystemGesturePinchOutInEventProperty pinchOutIn;
              SceSystemGestureRotationEventProperty rotation;
        } property;
        SceUInt8 reserved[56];
```

# Members

event ID of touch event (value of 1 or greater).

The touch panel port number is stored in the top 8 bits

eventState Touch event state
gestureType Type of gesture
padding Reserved area
updatedTime Time of last update

} SceSystemGestureTouchEvent;

property Union of gesture event properties

reserved Reserved area

The property members are as follows.

propertyBuf Buffer for storing properties
tap Tap gesture event properties
drag Drag gesture event properties

tapAndHold Tap and Hold gesture event properties pinchOutIn Pinch Out/In gesture event properties rotation Rotation gesture event properties

#### Description

This is a structure for touch gesture events such as Tap and Drag.

Acquisition is done with sceSystemGestureGetTouchEvents(), etc., following recognition by calling sceSystemGestureUpdateTouchRecognizer() for a gesture recognizer.

For the properties of the various touch gesture events, refer to the descriptions of the properties of the various touch gesture events in the following sections.

The eventState transitions differ according to the type of gesture, as follows.

gestureType	Possible eventState
SCE_SYSTEM_GESTURE_TYPE_ TAP	Active only
SCE_SYSTEM_GESTURE_TYPE_DRAG	The state transitions are Begin, Active, End, in this order. The Begin state is entered when the finger pressed the touch panel. Then, the Active state is maintained, and when the finger breaks contact with the touch panel or it travels outside the recognition target rectangle, the End state is entered. When Common Dialog, etc. are overlapped during the operation, the Cancelled state is entered.
SCE_SYSTEM_GESTURE_TYPE_ TAP_AND_HOLD	The state transitions are Begin, Active, End, in this order. The Begin state is entered when the finger, once pressed on the touch panel, does not travel by more than the preset threshold value and a time exceeding set at initialization lapses. Then the Active state is maintained, and when the finger breaks contact with the touch panel or it travels beyond the preset threshold value, the End state is entered. When Common Dialog, etc. are overlapped during the operation, the Cancelled state is entered.
SCE_SYSTEM_GESTURE_TYPE_PINCH_OUT_IN SCE_SYSTEM_GESTURE_TYPE_ROTATION	The state transitions are Begin, Active, End, in this order. The Begin state is entered when two fingers touch the recognition target rectangle. Then, the Active state is maintained, and when one of the two fingers breaks contact with the touch panel or travels outside the recognition target rectangle, the End state is entered. When Common Dialog, etc. are overlapped during the operation, the Cancelled state is entered.

# See Also

sceSystemGestureGetTouchEvents(), sceSystemGestureGetTouchEventsCount(), sceSystemGestureGetTouchEventByIndex(), sceSystemGestureGetTouchEventByEventID()



# SceSystemGestureTapEventProperty

# Tap gesture event properties

#### **Definition**

} SceSystemGestureTapEventProperty;

#### **Members**

primitiveID ID of primitive touch event related to this Tap gesture event

position Tapped position

tappedCount Number of continuous taps

reserved Reserved area

# **Description**

This is a data structure to which the Tap gesture event properties are stored.

# See Also



# SceSystemGestureDragEventProperty

# Drag gesture event properties

#### **Definition**

```
#include <systemgesture.h>
typedef struct SceSystemGestureDragEventProperty
        SceUInt16 primitiveID;
        SceSystemGestureVector2 deltaVector;
        SceSystemGestureVector2 currentPosition;
        SceSystemGestureVector2 pressedPosition;
        SceUInt8 reserved[ 50 ];
```

} SceSystemGestureDragEventProperty;

#### **Members**

primitiveID ID of primitive touch event related to this Drag gesture event deltaVector Travel amount from last update currentPosition Current touch position pressedPosition Pressed position reserved Reserved area

# **Description**

This is a data structure to which the Drag gesture event properties are stored.

#### See Also



# **SceSystemGestureTapAndHoldEventProperty**

Tap and Hold gesture event properties

# **Definition**

#### **Members**

primitiveID
pressedPosition
reserved

ID of primitive touch event related to this Tap and Hold gesture event Pressed position
Reserved area

# **Description**

This is a data structure to which the Tap and Hold gesture event properties are stored.

#### See Also



# SceSystemGesturePinchOutInEventProperty

# Pinch Out/In gesture event properties

#### **Definition**

```
#include <systemgesture.h>
typedef struct SceSystemGesturePinchOutInEventProperty
        float scale;
        struct {
              SceUInt16 primitiveID;
              SceSystemGestureVector2 currentPosition;
              SceSystemGestureVector2 deltaVector;
              SceSystemGestureVector2 pairedPosition;
        } primitive[2];
        SceUInt8 reserved[ 32 ];
```

#### } SceSystemGesturePinchOutInEventProperty;

#### **Members**

scale Relative distance change of two fingers from time when the second of the two fingers constituting this Pinch Out/In gesture event was pressed

primitive Structure to which the data of the two fingers constituting this Pinch Out/In gesture

event are stored

Reserved area reserved

The primitive members are as follows.

primitiveID ID of primitive touch event related to this Pinch Out/In gesture event

*currentPosition* Current touch positions of fingers constituting this Pinch Out/In gesture event deltaVector

Amount of travel from last update of the fingers constituting this Pinch Out/In

gesture event

pairedPosition Touch position when the second of the two fingers constituting this Pinch

Out/In gesture event was pressed

#### **Description**

This is the data structure to which the Pinch Out/In gesture event properties are stored.

#### See Also

# SceSystemGestureRotationEventProperty

# Rotation gesture event properties

#### **Definition**

```
#include <systemgesture.h>
typedef struct SceSystemGestureRotationEventProperty
{
    float angle;
    struct {
        SceUInt16 primitiveID;
        SceSystemGestureVector2 currentPosition;
        SceSystemGestureVector2 deltaVector;
        SceSystemGestureVector2 pairedPosition;
    } primitive[2];
    SceUInt8 reserved[ 32 ];
}
SceSystemGestureRotationEventProperty;
```

#### **Members**

angle Rotation angle (rad) of two fingers from time when the second of the two fingers

constituting this Rotation gesture event was pressed

A positive value means a clockwise rotation.

primitive Structure to which the data of the two fingers constituting this Rotation gesture event

are stored

reserved Reserved area

The primitive members are as follows

primitive ID ID of primitive touch event related to this Rotation gesture event

currentPosition Current touch positions of fingers constituting this Rotation gesture event deltaVector Amount of travel from last update of the fingers constituting this Rotation

gesture event

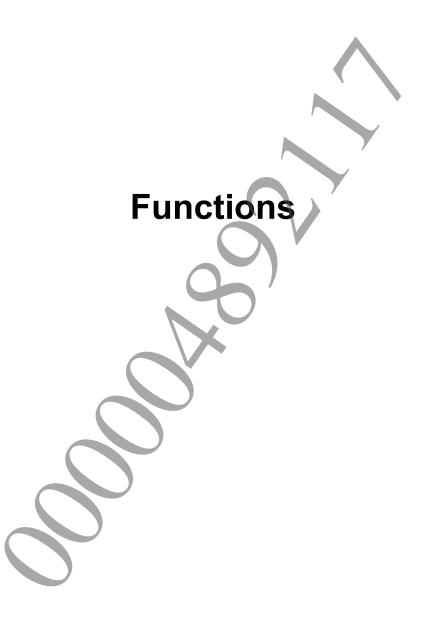
pairedPosition Touch position when the second of the two fingers constituting this Rotation

gesture event was pressed

#### Description

This is the data structure to which the Rotation gesture event properties are stored.

#### See Also



# sceSystemGestureInitializePrimitiveTouchRecognizer

Initialize primitive touch gesture recognizer

#### **Definition**

```
#include <systemgesture.h>
int sceSystemGestureInitializePrimitiveTouchRecognizer(
        SceSystemGesturePrimitiveTouchRecognizerParameter* parameter
);
```

# **Calling Conditions**

Multithread safe.

# **Arguments**

parameter Parameter for initialization of primitive touch gesture recognizer Not used currently. Specify NULL.

#### **Return Values**

Returns SCE OK.

# **Description**

This function initializes the primitive touch gesture recognizer. Call this function before starting to use libsystemgesture, such as when starting an application.

# sceSystemGestureFinalizePrimitiveTouchRecognizer

End primitive touch gesture recognizer

#### **Definition**

#include <systemgesture.h> int sceSystemGestureFinalizePrimitiveTouchRecognizer();

# **Calling Conditions**

Multithread safe.

# **Arguments**

None

# **Return Values**

Returns SCE OK.

# **Description**

This function executes the end processing for the primitive touch gesture recognizer. It clears the area used inside the library.

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# sceSystemGestureResetPrimitiveTouchRecognizer

Reset primitive touch gesture recognizer

#### **Definition**

#include <systemgesture.h> int sceSystemGestureResetPrimitiveTouchRecognizer();

# **Calling Conditions**

Multithread safe.

#### **Arguments**

None

#### **Return Values**

Value	Description
SCE_OK	Normal completion
SCE_SYSTEM_GESTURE_ERROR_NOT_INITIALIZED	The primitive touch gesture recognizer was not initialized

# **Description**

This function returns the primitive touch gesture recognizer to its initial state. Call this function to analyze newly a touch event, for example when the scene in a game application has changed.

#### See Also

sceSystemGestureInitializePrimitiveTouchRecognizer()



# sceSystemGestureUpdatePrimitiveTouchRecognizer

Update primitive touch gesture recognizer

#### **Definition**

```
#include <systemgesture.h>
int sceSystemGestureUpdatePrimitiveTouchRecognizer(
        const SceTouchData* pFrontData,
        const SceTouchData* pBackData
);
```

# **Calling Conditions**

Multithread safe.

# **Arguments**

pFrontData Touch data of the front touch panel pBackData Touch data of the back touch panel

#### **Return Values**

Value	Description
SCE_OK	Normal completion
SCE_SYSTEM_GESTURE_ERROR_INVALID_ARGUMENT	Both pFrontData and pFrontData were
	NULL
SCE_SYSTEM_GESTURE_ERROR_NOT_INITIALIZED	The primitive touch gesture recognizer was
	not initialized

# **Description**

This function updates the primitive touch gesture recognizer. In each frame, newly acquire the touch data of the front touch panel, back touch panel, or both touch panels using libtouch, and pass this data to this function. For how to acquire touch data, refer to "Touch Service Overview" and "Touch Service Reference".

#### See Also

sceSystemGestureInitializePrimitiveTouchRecognizer()



# sceSystemGestureGetPrimitiveTouchEvents

# Get all primitive touch events

#### **Definition**

## **Calling Conditions**

Multithread safe.

# **Arguments**

primitiveEventBuffer
capacityOfBuffer
numberOfEvent

Buffer for storing primitive touch event data Number of primitive touch event data that can be stored to buffer

Number of primitive touch events that were acquired

#### **Return Values**

Value	Description
SCE_OK	Normal completion
SCE_SYSTEM_GESTURE_ERROR_INVALID_ARGUMENT	primitiveEventBuffer or numberOfEvent was NULL, or capacityOfBuffer was 0
SCE SYSTEM GESTURE ERROR NOT INITIALIZED	The primitive touch gesture recognizer was not
	initialized

### **Description**

This function gets all the primitive touch events. There are four primitive touch events, namely pressing the touch panel with a finger (Begin), maintaining contact with the touch panel with a finger (Active), releasing the touch panel by lifting one's finger off the touch panel (End), and not touching the touch panel with a finger (Inactive). This function can acquire the primitive touch events in Begin/Active/End states.

The maximum value of numberOfEvent is 24 (6 (maximum number of touch points that can be acquired by the touch panel) x 2 (if finger press and release was performed simultaneously) x 2 (number of touch panels)).

An execution example is given below.

#### See Also

SceSystemGesturePrimitiveTouchEvent

# sceSystemGestureGetPrimitiveTouchEventsCount

Get number of primitive touch events in Begin/Active/End states

#### **Definition**

#include <systemgesture.h> int sceSystemGestureGetPrimitiveTouchEventsCount();

# **Calling Conditions**

Multithread safe.

#### **Arguments**

None

# **Return Values**

Value	Description
0 or greater	Number of primitive touch events in
	Begin/Active/End states
SCE_SYSTEM_GESTURE_ERROR_NOT_INITIALIZED	The primitive touch gesture recognizer was
	not initialized

# **Description**

Of the primitive touch events, this function returns the number of those that are in the Begin/Active/End state.

#### See Also

SceSystemGesturePrimitiveTouchEvent



# sceSystemGestureGetPrimitiveTouchEventByIndex

Get primitive touch event specified by index

#### **Definition**

# **Calling Conditions**

Multithread safe.

### **Arguments**

index
primitiveTouchEvent

Index of primitive touch events to be acquired Buffer for storing primitive touch event data

#### **Return Values**

Value	Description
SCE_OK	Normal completion
SCE_SYSTEM_GESTURE_ERROR_INVALID_ARGUMENT	primitiveTouchEvent was NULL
SCE_SYSTEM_GESTURE_ERROR_INDEX_OUT_OF_ARRAY	Upper limit of index was exceeded
SCE_SYSTEM_GESTURE_ERROR_NOT_INITIALIZED	The primitive touch gesture recognizer
	was not initialized

# **Description**

This function gets primitive touch events by specifying index. The range of values that can be assigned to the index is from 0 to <code>sceSystemGestureGetPrimitiveTouchEventsCount() - 1</code>. It is assumed that this function will be called as follows.

```
int ret = 0;
SceSystemGesturePrimitiveTouchEvent touchEvent;
int eventCount = sceSystemGestureGetPrimitiveTouchEventsCount();
for( int i=0; i<eventCount; i++ )
{
    ret = sceSystemGestureGetPrimitiveTouchEventByIndex(i, &touchEvent)
    // Do something with the received primitive touch event
}</pre>
```

#### See Also

 ${\tt SceSystemGesturePrimitiveTouchEvent}$ 

# sceSystemGestureGetPrimitiveTouchEventByPrimit iveID

Get primitive touch event specified by event ID

#### **Definition**

#### **Calling Conditions**

Multithread safe.

#### **Arguments**

primitiveID Event ID of primitive touch event
primitiveTouchEvent Buffer for storing primitive touch event data

#### **Return Values**

Value	Description
SCE_OK	Normal completion
SCE_SYSTEM_GESTURE_ERROR_INVALID_ARG	UMENT primitiveTouchEvent was NULL
SCE_SYSTEM_GESTURE_ERROR_EVENT_DATA_I	NOT_FOUND No primitive touch event having the
	target primitiveID was found
SCE_SYSTEM_GESTURE_ERROR_NOT_INITIAL:	The primitive touch gesture recognizer
	was not initialized

#### **Description**

This function gets primitive touch events by specifying the event ID. It is used to perform monitoring by tracking the states of specific primitive touch events.

The following is an example of tracking the first found Begin state item among the acquired primitive touch events using sceSystemGestureGetPrimitiveTouchEventByIndex().

```
// global
int primitiveID = -1;

// in every frame
int ret = 0;
SceSystemGesturePrimitiveTouchEvent touchEvent;

if( primitiveID < 0 )
{
    int eventCount = sceSystemGestureGetPrimitiveTouchEventsCount();
    for( int i=0; primitiveID < 0 && i<eventCount; i++ )
    {
        ret = sceSystemGestureGetPrimitiveTouchEventByIndex(i, &touchEvent)
        if( touchEvent.eventState ==
SCE_SYSTEM_GESTURE_TOUCH_STATE_BEGIN )</pre>
```

```
primitiveID = touchEvent.primitiveID;
}
else
{
    ret = sceSystemGestureGetPrimitiveTouchEventByPrimitiveID(primitiveID, &touchEvent);

    // Do something with received primitive touch event
}
```

# See Also



# sceSystemGestureCreateTouchRecognizer

# Create touch gesture recognizer

#### **Definition**

# **Calling Conditions**

Multithread safe.

# **Arguments**

touchRecognizer
gestureType

Buffer of touch gesture recognizer
Gesture type

touchPanelPortID Port number of touch panel

rectangle Recognition target rectangle of touch gesture recognizer touchRecognizerParameter Parameter for initialization of touch gesture recognizer

#### **Return Values**

Value		Description
SCE_OK		Normal completion
SCE_SYSTEM_GESTURE_ERROR_INVALI	D_ARGUMENT	touchRecognizer was NULL
SCE_SYSTEM_GESTURE_ERROR_NOT_SU	PPORTED_GESTURE	The gesture type specified with
	)	gestureType is not supported

#### **Description**

This function creates a touch gesture recognizer for gestures such as Tap or Drag.

The following values can be specified for *gestureType*. Multiple gesture recognizers can be generated for the same *gestureType*.

gestureType	Description
SCE_SYSTEM_GESTURE_TYPE_TAP	Specify this value to create a Tap gesture
	recognizer.
SCE_SYSTEM_GESTURE_TYPE_DRAG	Specify this value to create a Drag gesture
	recognizer.
SCE_SYSTEM_GESTURE_TYPE_TAP_AND_HOLD	Specify this value to create a Tap and Hold gesture
	recognizer.
SCE_SYSTEM_GESTURE_TYPE_PINCH_OUT_IN	Specify this value to create a Pinch Out/In gesture
	recognizer.
SCE_SYSTEM_GESTURE_TYPE_ROTATION	Specify this value to create a Rotation gesture
	recognizer.

For touchPanelPortID, specify SCE\_TOUCH\_PORT\_FRONT or SCE\_TOUCH\_PORT\_FRONT to select the front touch panel or back touch panel, respectively, as the target panel.

For rectangle, specify in the touch panel coordinate system the rectangular area to be the recognition target of the touch gesture recognizer to be created. NULL can also be specified for rectangle. In this case, the entire touch panel area is the recognition target area.

For touchRecognizerParameter, specify the parameters for initializing the touch gesture recognizer to be created. If NULL is specified, the default parameters are set. For the parameters that can be set for the various touch gestures, refer to the structure for that parameter, such as SceSystemGestureTapRecognizerParameter.

Examples of creation of various touch gesture recognizers are given below.

```
SceSystemGestureTouchRecognizer tapReocognizer;
SceSystemGestureTouchRecognizer multiTapRecognizer;
SceSystemGestureTouchRecognizer dragRecognizer;
SceSystemGestureTouchRecognizer tapAndHoldRecognizer;
SceSystemGestureTouchRecognizer pinchOutInRecognizer
SceSystemGestureTouchRecognizer rotationRecognizer;
SceSystemGestureRectangle rect;
// initialize Tap recognizer
rect.x = 0;
rect.y = 0;
rect.width = 960;
rect.height = 544;
sceSystemGestureCreateTouchRecognizer( SCE SYSTEM GESTURE TYPE TAP,
&tapRecognizer, SCE TOUCH PORT FRONT, &rect, NULL);
// initialize Tap and Hold recognizer
rect.x = 960;
SceSystemGestureTouchRecognizerParameter tapAndHoldParam;
tapAndHoldParam.tapAndHold.timeToInvokeEvent = 1000;
LD, &tapAndHoldRecognizer, SCE TOUCH PORT FRONT, &rect, &tapAndHoldParam);
// initialize Multi-tap recognizer
SceSystemGestureTouchRecognizerParameter multiTapParam;
multiTapParam.tap.maxTapCount = 2;
sceSystemGestureCreateTouchRecognizer( SCE SYSTEM GESTURE TYPE TAP,
&multiTapRecognizer, SCE TOUCH PORT BACK, NULL, &multiTapParam );
// initialize Drag recognizer
sceSystemGestureCreateTouchRecognizer( SCE_SYSTEM_GESTURE_TYPE_DRAG,
&dragRecognizer, SCE_TOUCH_PORT_FRONT, NULL, NULL);
// initialize Pinch Out/In recognizer
rect.x = 200;
rect.y = 0;
rect.y = 0;
rect width = 1920 - 200 * 2;
rect.height =
             1088;
sceSystemGestureCreateTouchRecognizer( SCE SYSTEM GESTURE TYPE PINCH OUT
IN, &pinchOutInRecognizer, SCE TOUCH PORT BACK, &rect, NULL );
sceSystemGestureCreateTouchRecognizer( SCE SYSTEM GESTURE TYPE ROTATION,
&rotationRecognizer, SCE TOUCH PORT BACK, &rect, NULL );
```

#### See Also

SceSystemGestureTouchRecognizer,SceSystemGestureRectangle,SceSystemGestureTouchRecognizerParameter

# sceSystemGestureResetTouchRecognizer

Reset touch gesture recognizer

#### **Definition**

# **Calling Conditions**

Multithread safe.

# **Arguments**

touchRecognizer Buffer of touch gesture recognizer

#### **Return Values**

Value	Description
SCE_OK	Normal completion
SCE_SYSTEM_GESTURE_ERROR_INVALID_ARGUMENT	touchRecognizer was NULL
SCE_SYSTEM_GESTURE_ERROR_NOT_INITIALIZED	The touch gesture recognizer was not
	initialized

# **Description**

This function resets the touch gesture recognizer. All the touch events related to the touch gesture recognizer specified with <code>touchRecognizer</code> are returned to their initial state.

# See Also

SceSystemGestureTouchRecognize:



# sceSystemGestureGetTouchRecognizerInformation

Get information of touch gesture recognizer

#### **Definition**

```
#include <systemgesture.h>
int sceSystemGestureGetTouchRecognizerInformation(
        const SceSystemGestureTouchRecognizer* touchRecognizer,
        SceSystemGestureTouchRecognizerInformation* information
);
```

# **Calling Conditions**

Multithread safe.

### **Arguments**

touchRecognizer information

Buffer of touch gesture recognizer Information of touch gesture recognizer

#### **Return Values**

Value	Description
SCE_OK	Normal completion
SCE_SYSTEM_GESTURE_ERROR_INVALID_ARGUMENT	touchRecognizer was NULL
SCE_SYSTEM_GESTURE_ERROR_NOT_INITIALIZED	The touch gesture recognizer was not
	initialized

# **Description**

This function gets the information of the touch gesture recognizer. The information related to the touch gesture recognizer specified with touchRecognizer is stored to information. For the information that can be acquired, refer to the SceSystemGestureTouchRecognizerInformation section.

#### See Also

 ${\tt SceSystemGestureTouchRecognizer}, {\tt SceSystemGestureTouchRecognizerInformation}$ 

# sceSystemGestureUpdateTouchRecognizer

Update touch gesture recognizer

#### **Definition**

```
#include <systemgesture.h>
int sceSystemGestureUpdateTouchRecognizer(
        SceSystemGestureTouchRecognizer* touchRecognizer
);
```

# **Calling Conditions**

Multithread safe.

### **Arguments**

touchRecognizer Buffer of touch gesture recognizer

#### **Return Values**

Value	Description
SCE_OK	Normal completion
SCE_SYSTEM_GESTURE_ERROR_INVALID_ARGUMENT	touchRecognizer was NULL
SCE_SYSTEM_GESTURE_ERROR_NOT_INITIALIZED	The touch gesture recognizer was not initialized

# **Description**

This function updates the touch gesture recognizer. Make sure to always call this function for each gesture recognizer after the primitive touch gesture recognizers have been updated using sceSystemGestureUpdatePrimitiveTouchRecognizer() in each frame.

#### See Also

SceSystemGestureTouchRecognizer, sceSystemGestureUpdatePrimitiveTouchRecognizer()



# sceSystemGestureUpdateTouchRecognizerRectangle

Update recognition target rectangle of touch gesture recognizer

#### **Definition**

### **Calling Conditions**

Multithread safe.

#### **Arguments**

touchRecognizer rectangle

Buffer of touch gesture recognizer Recognition target rectangle of touch gesture recognizer

#### **Return Values**

Value	Description
SCE_OK	Normal completion
SCE_SYSTEM_GESTURE_ERROR_INVALID_ARGUMENT	touchRecognizer or rectangle was
	NULL
SCE_SYSTEM_GESTURE_ERROR_NOT_INITIALIZED	The touch gesture recognizer was not
	initialized

# Description

This function updates the recognition target rectangle area of the gesture recognizer. Call this function when the recognition target area moves or to have a different area be used as the recognition target area. To have a completely different area be used as the recognition target area, it is recommended to call sceSystemGestureResetTouchRecognizer() along with this function.

#### See Also

SceSystemGestureTouchRecognizer, SceSystemGestureRectangle,
sceSystemGestureResetTouchRecognizer()

# sceSystemGestureGetTouchEvents

Get all touch events that were recognized by touch gesture recognizer

#### **Definition**

# **Calling Conditions**

Multithread safe.

#### **Arguments**

touchRecognizer

eventBuffer

Buffer of touch gesture recognizer

Buffer for storing touch event data

capacityOfBuffer Number of touch event data that can be stored to buffer

numberOfEvent Number of touch events that were acquired

#### **Return Values**

	1
Value	Description
SCE_OK	Normal completion
SCE_SYSTEM_GESTURE_ERROR_INVALID_ARGUMENT	touchRecognizer, eventBuffer or
	numberOfEvent was NULL, or
	capacityOfBuffer $oldsymbol{was}0$
SCE_SYSTEM_GESTURE_ERROR_NOT_INITIALIZED	The touch gesture recognizer was not
	initialized

#### Description

This function gets all the touch events of the touch gesture recognizer.

The maximum value of <code>numberOfEvent</code> is 6 (maximum number of touch points that can be acquired by the touch panel).

An execution example is given below.

#### See Also

 ${\tt SceSystemGestureTouchRecognizer, SceSystemGestureTouchEvent}$ 

# sceSystemGestureGetTouchEventsCount

Get number of touch events that were recognized by touch gesture recognizer

#### **Definition**

# **Calling Conditions**

Multithread safe.

# **Arguments**

touchRecognizer Buffer of touch gesture recognizer

#### **Return Values**

Value	Description
0 or greater	Number of touch events that were
	recognized by touch gesture recognizer
SCE_SYSTEM_GESTURE_ERROR_INVALID_ARGUMENT	touchRecognizer was NULL
SCE_SYSTEM_GESTURE_ERROR_NOT_INITIALIZED	The touch gesture recognizer was not
	initialized

# **Description**

This function returns the number of touch events that were recognized by the touch gesture recognizer.

# See Also

SceSystemGestureTouchRecognizer



# sceSystemGestureGetTouchEventByIndex

Get touch event specified by index

#### **Definition**

# **Calling Conditions**

Multithread safe.

#### **Arguments**

touchRecognizer
index
touchEvent

Buffer of touch gesture recognizer Index of touch event to be acquired Buffer for storing touch event data

### **Return Values**

Value	Description
SCE_OK	Normal completion
SCE_SYSTEM_GESTURE_ERROR_INVALID_ARGUMENT	touchRecognizer or touchEvent was
	NULL
SCE_SYSTEM_GESTURE_ERROR_NOT_INITIALIZED	The touch gesture recognizer was not
	initialized
SCE_SYSTEM_GESTURE_ERROR_INDEX_OUT_OF_ARRA	Upper limit of <i>index</i> was exceeded

# Description

This function gets touch events by specifying index. The range of values that can be assigned to index is from 0 to sceSystemGestureGetTouchEventsCount() - 1. It is assumed that this function will be called as follows.

```
int r = 0;
SceSystemGestureTouchEvent touchEvent;
int eventCount = sceSystemGestureGetTouchEventsCount(&touchRecognizer);
for( int i=0; i<eventCount; i++ )
{
    r = sceSystemGestureGetTouchEventByIndex(&touchRecognizer, i, &touchEvent)

    // Do something with the received touch event
}</pre>
```

#### See Also

 ${\tt SceSystemGestureTouchRecognizer, SceSystemGestureTouchEvent}$ 

# sceSystemGestureGetTouchEventByEventID

Get touch event specified by event ID

#### **Definition**

## **Calling Conditions**

Multithread safe.

#### **Arguments**

touchRecognizer
eventID
touchEvent

Buffer of touch gesture recognizer Event ID of touch event Buffer for storing touch event data

#### **Return Values**

Value	Description
SCE_OK	Normal completion
SCE_SYSTEM_GESTURE_ERROR_INVALID_ARGUMENT	touchRecognizer or touchEvent
	was NULL
SCE_SYSTEM_GESTURE_ERROR_NOT_INITIALIZED	The touch gesture recognizer was not
	initialized
SCE_SYSTEM_GESTURE_ERROR_EVENT_DATA_NOT_FOUND	No touch event having the target
	eventID was found

### **Description**

This function gets touch events by specifying the event ID. It is used to perform monitoring by tracking the states of specific touch events.

The following is an example of tracking the first found Begin state item among the acquired Drag gesture events using sceSystemGestureGetTouchEventByIndex().

```
}
}
else
{
    r = sceSystemGestureGetTouchEventByEventID(&dragRecognizer, dragEventID, &dragEvent);

// Do something with received primitive touch event
}
```

# See Also

 ${\tt SceSystemGestureTouchRecognizer, SceSystemGestureTouchEvent}$ 

