Kinect SDK Reference

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WindowsPreview.Kinect Namespace

Contains the types and members in the WindowsPreview.Kinect namespace.

Classes

Name	Description
AudioBeam	Represents an audio beam.
AudioBeamFrame	Represents an audio beam frame.
AudioBeamFrameArrivedEventArgs	Arguments for the audio related FrameReady events.
AudioBeamFrameList	Represents a list of audio beam frames.
AudioBeamFrameReader	Represents an audio beam frame reader.
AudioBeamFrameReference	Represents an audio frame reference.
AudioBeamSubFrame	Represents an audio beam sub frame.
AudioBodyCorrelation	Represents a correlation between an audio frame and a unique body tracking id.
AudioSource	Represents an audio frame source.

Body	Represents a body.
BodyFrame	Represents a frame that contains all the computed real-time tracking information about people that are in view of the sensor.
BodyFrameArrivedEventArgs	Represents the arguments for a body frame reader's FrameArrived event.
BodyFrameReader	Represents a reader for body frames.
BodyFrameReference	Represents a reference to an actual body frame.
BodyFrameSource	Represents a source of body frames from a KinectSensor.
BodyIndexFrame	Represents a frame that indicates which depth or infrared pixels belong to tracked people and which do not.
BodyIndexFrameArrivedEventArgs	Represents the arguments for a body index frame reader's FrameArrived event.
BodyIndexFrameReader	Represents a reader for body index frames.
BodyIndexFrameReference	Represents a reference to an actual body index frame.
BodyIndexFrameSource	Represents a source of body index frames from a KinectSensor.
ColorCameraSettings	Represents the settings of the color camera.
ColorFrame	Represents a color frame from the ColorFrameSource of a KinectSensor.
ColorFrameArrivedEventArgs	Represents the arguments for a color frame reader's FrameArrived event.
ColorFrameReader	Represents a reader for color frames.
ColorFrameReference	Represents a reference to an actual color frame.
ColorFrameSource	Represents a source of color frames from a KinectSensor.

CoordinateMapper	Represents the mapper that provides translation services from one type of point to another.
CoordinateMappingChangedEventArgs	Represents the arguments for a coordinate mapping's CoordinateMappingChanged event.
DepthFrame	Represents a frame where each pixel represents the distance (in millimeters) of the closest object seen by that pixel.
DepthFrameArrivedEventArgs	Represents the arguments for a depth frame reader's FrameArrived event.
DepthFrameReader	Represents a reader for depth frames.
DepthFrameReference	Represents a reference to an actual depth frame.
DepthFrameSource	Represents a source of depth frames from a KinectSensor.
FrameCapturedEventArgs	Represents the arguments for a frame source's FrameCaptured event.
FrameDescription	Represents the properties of an image frame from the KinectSensor.
InfraredFrame	Represents a frame that provides a view of the scene that looks just like a black and white photograph, but is actively lit, so brightness is consistent regardless of location and room brightness.
InfraredFrameArrivedEventArgs	Represents the arguments for an infrared frame reader's FrameArrived event.
InfraredFrameReader	Represents a reader for infrared frames.
InfraredFrameReference	Represents a reference to an actual infrared frame.
InfraredFrameSource	Represents a source of infrared frames from a KinectSensor.
IsAvailableChangedEventArgs	Represents the arguments for a KinectSensor's IsAvailableChanged event.

KinectSensor	Represents a KinectSensor device.
LongExposureInfraredFrame	Represents a long exposure infrared frame.
LongExposureInfraredFrameArrivedEventArgs	Represents the arguments for a long exposure infrared frame reader's FrameArrived event.
LongExposureInfraredFrameReader	Represents a reader for long exposure infrared frames.
LongExposureInfraredFrameReference	Represents a reference to an actual long exposure infrared frame.
LongExposureInfraredFrameSource	Represents a source of long exposure infrared frames from a Kinect sensor.
MultiSourceFrame	Represents a multi source frame from the KinectSensor.
MultiSourceFrameArrivedEventArgs	Represents the arguments for a multi source frame reader's FrameArrived event.
MultiSourceFrameReader	Represents a reader for multi source frames.
MultiSourceFrameReference	Represents a reference to an actual multi source frame.

Structures

Name	Description
CameraIntrinsics	Represents the calibration data for the depth camera.
CameraSpacePoint	Represents a 3D point in camera space (in meters). The origin point (0,0,0), of the coordinate system is the camera position.
ColorSpacePoint	Represents a 2D point in color space, expressed in pixels.
DepthSpacePoint	Represents pixel coordinates within a depth image.
Joint	Represents the position of a joint of a body.
JointOrientation	Represents the orientation of a joint of a body.

Vector4	Represents a 4D vector.

Enumerations

Name	Description
Activity	The activity in which a body may be engaged.
Appearance	Appearance characteristics a body may exhibit.
AudioBeamMode	Types of audio beam angle determination.
ColorImageFormat	The available color image formats.
DetectionResult	Gesture detection result options.
Expression	User expressions. Expression functionality is not supported for Kinect for Windows apps. This enumeration is included to support cross-compilation with the Xbox SDK.
FrameCapturedStatus	Captured frame status options.
FrameEdges	Identifies if the user's body is visible by indicating any portion of the user that is not in the camera's field of view.
FrameSourceTypes	The types frame sources for a MultiSourceReader.
HandState	Possible hand states.
JointType	Joint types in a skeleton.
KinectAudioCalibrationState	Specifies the Kinect for Windows sensor audio calibration states.
KinectCapabilities	Capabilities of the Kinect sensor.
TrackingConfidence	Specifies the confidence level of a body's tracked attribute.
TrackingState	The state of tracking a body or body's attribute.

ColorFrame Class

Represents a color frame from the ColorFrameSource of a KinectSensor.

Syntax

C#

```
public sealed class ColorFrame : IDisposable
```

Members

ColorFrame has the following members.

Properties

Name	Description
ColorCameraSettings	Gets the color camera settings of the color frame.
ColorFrameSource	Gets the source of the color frame.
FrameDescription	Gets the description of the color frame.
RawColorImageFormat	Gets the format of the color frame data.
RelativeTime	Gets the timestamp of the color frame.

Methods

Name	Description
Close	Releases system resources associated with the color frame.
CopyConvertedFrameDataToArray	Converts the raw format into the requested format and copies the data into the array provided.
CopyConvertedFrameDataToBuffer	

	Converts the raw format into the requested format and copies the data into the memory location provided.
CopyRawFrameDataToArray	Copies the raw frame data into the array provided.
CopyRawFrameDataToBuffer	Copies raw frame data into the memory location provided.
CreateFrameDescription	Creates a FrameDescription object for the ColorFrame of the requested format.
LockRawImageBuffer	Gives an app access to the underlying buffer used by the system to store this frame's data.

Requirements

Namespace: WindowsPreview.Kinect
Metadata: windowspreview.kinect.winmd

See also

Reference
WindowsPreview.Kinect Namespace

ColorFrameReader Class

Represents a reader for color frames.

Syntax

C#

```
public sealed class ColorFrameReader : IDisposable,
INotifyPropertyChanged
```

Members

ColorFrameReader has the following members.

Properties

Name	Description
ColorFrameSource	Represents a source of color frames from a KinectSensor.
IsPaused	Gets or sets whether the color frame reader is paused.

Methods

Name	Description
AcquireLatestFrame	Gets the most recent color frame.
Close	Closes and releases system resources associated with the color frame reader.

Events

Name	Description
FrameArrived	Event that fires whenever a frame is captured.
PropertyChanged	Occurs when a property of the ColorFrameReader class changes.

Requirements

Namespace: WindowsPreview.Kinect
Metadata: windowspreview.kinect.winmd

ColorFrameSource Class

Represents a source of color frames from a KinectSensor.

Syntax

C#

```csharp
public sealed class ColorFrameSource : INotifyPropertyChanged
```

Members

ColorFrameSource has the following members.

Properties

Name	Description
FrameDescription	Gets the description of the color frames.
IsActive	Gets whether the color frame source is active.
KinectSensor	Gets the Kinect sensor of the color frame source.

Methods

Name	Description
CreateFrameDescription	Creates a FrameDescription object for the ColorFrame of the requested format.

OpenReader	Creates a frame reader for the color frame source.

Events

Name	Description
FrameCaptured	Event that is raised when the next color frame is ready to be delivered to subscribed readers.
PropertyChanged	Occurs when a property of the ColorFrameSource class changes.

Requirements

Namespace: WindowsPreview.Kinect
Metadata: windowspreview.kinect.winmd

See also

Reference
WindowsPreview.Kinect Namespace

DepthFrame Class

Represents a frame where each pixel represents the distance (in millimeters) of the closest object seen by that pixel.

Syntax

C#

```
public sealed class DepthFrame : IDisposable
```

Members

DepthFrame has the following members.

Properties

Name	Description
DepthFrameSource	Gets the source of the depth frame.
DepthMaxReliableDistance	Gets the maximum reliable depth of the depth frame, in millimeters.
DepthMinReliableDistance	Gets the minimum reliable depth of the depth frame, in millimeters.
FrameDescription	Gets the description of the depth frame.
RelativeTime	Gets the timestamp of the depth frame.

Methods

Name	Description
Close	Releases system resources associated with the depth frame.
CopyFrameDataToArray	Copies the depth frame data into the array provided.
CopyFrameDataToBuffer	Copies the depth frame data into the memory location provided.
LockImageBuffer	Gives an app access to the underlying buffer used by the system to store this frame's data.

Remarks

The data for this frame is stored as 16-bit unsigned integers, where each value represents the distance in millimeters. The maximum depth distance is 8 meters, although reliability starts to

degrade at around 4.5 meters. Developers can use the depth frame to build custom tracking algorithms in cases where the BodyFrame isn't enough.

Requirements

Namespace: WindowsPreview.Kinect
Metadata: windowspreview.kinect.winmd

See also

Reference
WindowsPreview.Kinect Namespace

DepthFrameReader Class

Represents a reader for depth frames.

Syntax

C#

```csharp
public sealed class DepthFrameReader : IDisposable,
INotifyPropertyChanged
```

Members

DepthFrameReader has the following members.

Properties

Name	Description
DepthFrameSource	Gets the source of the depth frames.
IsPaused	Gets or sets whether the depth frame reader is paused.

Methods

Name	Description
AcquireLatestFrame	Gets the most recent depth frame.
Close	Closes and releases system resources associated with the depth frame reader.

Events

Name	Description
FrameArrived	Event that fires whenever a frame is captured.
PropertyChanged	Occurs when a property of the DepthFrameReader class changes.

Requirements

Namespace: WindowsPreview.Kinect
Metadata: windowspreview.kinect.winmd

See also

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DepthFrameSource Class

Represents a source of depth frames from a KinectSensor.

Syntax

```C#
public sealed class DepthFrameSource : INotifyPropertyChanged
```

Members

DepthFrameSource has the following members.

Properties

Name	Description
DepthMaxReliableDistance	Gets the maximum reliable depth of the depth frames, in millimeters.
DepthMinReliableDistance	Gets the minimum reliable depth of the depth frames, in millimeters.
FrameDescription	Gets the frame description for the format.
IsActive	Gets whether the depth frame source is active.
KinectSensor	Gets the KinectSensor of the depth frame source.

Methods

Name	Description
OpenReader	Creates a frame reader for the depth frame source.

Events

Name	Description

FrameCaptured	Event that is raised when the next depth frame is ready to be delivered to subscribed readers.
PropertyChanged	Occurs when a property of the DepthFrameSource class changes.

Requirements

Namespace: WindowsPreview.Kinect
Metadata: windowspreview.kinect.winmd

See also

Reference
WindowsPreview.Kinect Namespace

KinectSensor Class

Represents a KinectSensor device.

Syntax

C#
| ```csharp
public sealed class KinectSensor : INotifyPropertyChanged
``` |

Members

KinectSensor has the following members.

Properties

Name	Description
AudioSource	Gets the source for audio frames.

BodyFrameSource	Gets the source for body frames.
BodyIndexFrameSource	Gets the source for body index frames.
ColorFrameSource	Gets the source for color frames.
CoordinateMapper	Gets the coordinate mapper.
DepthFrameSource	Gets the source for depth frames.
InfraredFrameSource	Gets the source for infrared frames.
IsAvailable	Gets whether the Kinect sensor is available and able to retrieve frames.
IsOpen	Gets whether or not the KinectSensor is open.
KinectCapabilities	Gets the capabilities of the KinectSensor.
LongExposureInfraredFrameSource	Gets the source for long exposure infrared frames.
Sensors	Gets the list of available sensors.
UniqueKinectId	Gets the unique ID for the KinectSensor.

Methods

Name	Description
Close	Closes and releases system resources associated with the Kinect Sensor.
GetDefault	Gets the default sensor.
Open	Opens the KinectSensor for use.
OpenMultiSourceFrameReader	Creates a frame reader for the multiple frame sources.

Events

Name	Description

IsAvailableChanged	This event fires when the IsAvailable property changes.
PropertyChanged	Occurs when a property of the KinectSensor class changes.

Requirements

Namespace: WindowsPreview.Kinect
Metadata: windowspreview.kinect.winmd

See also

Reference
WindowsPreview.Kinect Namespace