emt-sdk

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Chapter 1

Namespace Index

1.1 Namespace List

Here is a list of all documented namespaces with brief descriptions:

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emt_sdk.Communication
emt_sdk.Events
emt_sdk.Events.Local
emt_sdk.Events.NtpSync
emt_sdk.Events.Relay
emt_sdk.Events.Remote
emt_sdk.Extensions
emt_sdk.Generated
emt_sdk.Generated.ScenePackage1
emt_sdk.Scene
emt_sdk.ScenePackage
emt_sdk.Settings
Naki3D
Naki3D.Common
Naki3D Common Protocol

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Chapter 2

Hierarchical Index

2.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

emt_sdk.Generated.ScenePackage.Action
emt_sdk.Generated.ScenePackage.CameraAnimation
emt_sdk.Generated.ScenePackage.CanvasDimensions
emt_sdk.Settings.ColorSetting.Color
emt_sdk.Settings.ColorSetting
emt_sdk.Settings.CommunicationSettings
emt_sdk.Settings.DisplaySetting
emt_sdk.Events.EffectCall
emt_sdk.Generated.ScenePackage.Element
emt_sdk.Settings.EmtSetting
emt_sdk.Events.EventManager
emt_sdk.Events.Relay.EventRelayClient
emt_sdk.Events.Relay.EventRelayServer
emt_sdk.Scene.GltfObject.Flag
emt_sdk.Scene.Gallery
emt_sdk.Generated.ScenePackage.GalleryImage
emt_sdk.Scene.Gallery.GalleryImage
emt_sdk.Scene.Gallery.GalleryLayout
emt_sdk.Scene.Gallery.GridLayout
emt_sdk.Scene.Gallery.ListLayout
emt sdk.Scene.GltfObject.GltfLocation
emt sdk.Scene.GltfObject
pb.IBufferMessage
Naki3D.Common.Protocol.BestUserChangedData
Naki3D.Common.Protocol.BestUserChangedData
Naki3D.Common.Protocol.CECMessage
Naki3D.Common.Protocol.ClearPackage
Naki3D.Common.Protocol.ConnectionAcknowledgement
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Naki3D.Common.Protocol.DeviceDescriptor
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Naki3D.Common.Protocol.ManagementRequest	
Naki3D.Common.Protocol.ManagementResponse	
Naki3D.Common.Protocol.MediapipeHandTrackingData	
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Naki3D.Common.Protocol.MouseButtonData	
Naki3D.Common.Protocol.MouseMoveData	
Naki3D.Common.Protocol.MouseScrollData	
Naki3D.Common.Protocol.Panorama	
Naki3D.Common.Protocol.Ping	
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Naki3D.Common.Protocol.Vector2	
Naki3D.Common.Protocol.Vector3	
Naki3D.Common.Protocol.VersionInfo	
Naki3D.Common.Protocol.Video	
emt_sdk.Scene.GltfObject.ICameraAnimation	
emt_sdk.Scene.GltfObject.OrbitAnimation	
	/
IDisposable	
emt_sdk.Communication.ExhibitConnection	
$\mbox{emt_sdk.Communication.ProtobufTcpClient} < \mbox{T} > \ \dots \$	8
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Naki3D.Common.Protocol.ClearPackage	
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Class Index

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Settings for the entire EMT device	30
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For setting up p2p encryption in case of	31
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Layout where images are aligned in a grid, wrapping?	50
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Naki3D.Common.Protocol.LoadPackage	
Instructs the device to load the specified resource and start displaying it	63
Naki3D.Common.Protocol.ManagementRequest	
We've covered there's going to be an optional management app, but not the capabilities, just a	
placeholder	
Naki3D.Common.Protocol.ManagementResponse	
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- 4.2 emt_sdk.Communication Namespace Reference

Classes

- class ExhibitConnection
- class JsonObjectStringReader
- class ProjectorControl
- class ProtobufTcpClient
- class ProtobufTcpListener

Enumerations

• enum ConnectionStateEnum

4.3 emt_sdk.Events Namespace Reference

Classes

- class EffectCall
- class EventManager
- 4.4 emt_sdk.Events.Local Namespace Reference

Classes

· class SensorManager

4.5 emt_sdk.Events.NtpSync Namespace Reference

Classes

- class NtpAction
- class NtpScheduler

4.6 emt_sdk.Events.Relay Namespace Reference

Classes

· class EventRelayClient

Client event relaying connection for any external applications using emt_sdk events. Receives master local, remote and events sent through this client.

• class EventRelayServer

Server event relaying connection for any external applications using emt_sdk events. Relays local, remote and even relayed events to a connected EventRelayClient. This should not be used in user code and is only for the main managing application.

4.7 emt_sdk.Events.Remote Namespace Reference

Classes

- · class InterdeviceEventRelay
- class OutgoingEventConnection

Connection between two emt_sdk devices - client and server event server

4.8 emt_sdk.Extensions Namespace Reference

Classes

· class IMessageExtensions

Extensions for protobug communication

• class VersionExtensions

4.9 emt_sdk.Generated Namespace Reference

4.10 emt_sdk.Generated.ScenePackage Namespace Reference

Classes

- class Action
- · class AspectRatioConverter
- · class CameraAnimation
- · class CanvasDimensions
- · class ConditionConverter
- class Converter
- class Element
- class FlagInteractionConverter
- · class GalleryImage
- · class Layout
- class LayoutTypeConverter
- class Mapping
- · class Metadata
- · class ModelCameraTarget
- class ModelFlag
- class Other
- · class Package
- · class PackageDescriptor

Implementation of PackageDescriptor logic.

- class Parameters
- class Settings
- class Sync
- class ThresholdTypeConverter
- · class TypeEnumConverter
- class Vector2
- · class Vector3
- class VideoEvent

Enumerations

- enum Condition
- enum ThresholdType
- enum TypeEnum
- enum AspectRatio
- enum FlagInteraction
- enum LayoutType

4.11 emt_sdk.Scene Namespace Reference

Classes

· class Gallery

Definition of gallery specific data

class GltfObject

Definition of 3D scene specific data

class VideoScene

Definition of video scene specific data

4.12 emt sdk.ScenePackage Namespace Reference

Classes

- · class PackageLoader
- class Viewport

4.13 emt sdk.Settings Namespace Reference

Classes

- · class ColorSetting
- · class CommunicationSettings
- class DisplaySetting
- · class EmtSetting

Settings for the entire EMT device

· class IPWSetting

Settings for an Interactive Projection Wall

· class PeppersGhostSetting

Settings for a Pepper's ghost effect device

class SkewSetting

Describes screen keystone transformation quad Coordinate space starts at -1, -1 for the bottom left corner And ends at 1, 1 for the rop right corner

4.14 Naki3D Namespace Reference

4.15 Naki3D.Common Namespace Reference

4.16 Naki3D.Common.Protocol Namespace Reference

Classes

- class BestUserChangedData
- class CameraReflection

Holder for reflection information generated from camera.proto

- · class CECMessage
- · class ClearPackage

Instructs the device to clear/unload the loaded package, optionally deleting the package data.

· class CommandsReflection

Holder for reflection information generated from commands.proto

• class ConnectionAcknowledgement

(2) Server -> Device

· class ConnectionReflection

Holder for reflection information generated from connection.proto

· class ConnectionRequest

(1) Device -> Server

class DeviceDescriptor

Information for the server to filter out what content the device is capable of (interactively) displaying.

class DeviceMessage

Device -> Server Message wrapper, same as above.

class EncryptionInfo

For setting up p2p encryption in case of

- class Environment
- class EventData

Device -> Device

class EventReflection

Holder for reflection information generated from event.proto

- · class EventScript
- · class FingerState
- · class GestureData

Raspi -> Device

- class HandFingerState
- · class HandMovementData
- class HandtrackingReflection

Holder for reflection information generated from handtracking/handtracking.proto

- · class Image
- · class KeyboardReflection

Holder for reflection information generated from keyboard.proto

· class KeyboardUpdateData

Raspi -> Device

- · class LightLevelData
- · class LoadPackage

Instructs the device to load the specified resource and start displaying it.

· class ManagementReflection

Holder for reflection information generated from management.proto

class ManagementRequest

We've covered there's going to be an optional management app, but not the capabilities, just a placeholder

- · class ManagementResponse
- · class MediapipeHandTrackingData
- class MediapipeReflection

Holder for reflection information generated from handtracking/mediapipe.proto

- class Model3D
- · class MouseButtonData
- · class MouseMoveData

Raspi -> Device

· class MouseReflection

Holder for reflection information generated from mouse.proto

- class MouseScrollData
- class Panorama
- · class Ping

Basically an empty ping message, just to maintain connection.

- class PirMovementData
- · class RealsenseReflection

Holder for reflection information generated from handtracking/realsense.proto

- class Resource
- · class ResourceReflection

Holder for reflection information generated from resource.proto

• class Scene3D

· class SensorControlMessage

Device -> RasPi Message wrapper, same as above.

- · class SensorInfo
- class SensorList
- · class SensorListRequest
- class SensorMessage

RasPi -> Device Message wrapper, same as above.

• class SensorReflection

Holder for reflection information generated from sensor.proto

• class ServerMessage

Server -> Device Message wrapper to allow identifying which message was sent using protobuf.

• class TypesReflection

Holder for reflection information generated from types.proto

· class UltrasonicDistanceData

Raspi -> Device

- class Vector2
- · class Vector3
- class VersionInfo

Same for both peers, version for compatibility checks. Probably SEMVER?

- · class Video
- class WrappersReflection

Holder for reflection information generated from wrappers.proto

Enumerations

- enum GestureType
- enum HandType
- enum PerformanceCap
- enum SensorType
- enum DeviceType
- enum HandGestureType
- · enum HandSide
- enum KeyActionType
- enum MouseActionType
- enum MouseScrollType
- enum CECAction

Reverse conrtol

enum PirMovementEvent

Chapter 5

Class Documentation

5.1 emt_sdk.Generated.ScenePackage.Action Class Reference

Public Member Functions

- double? MapValue (SensorMessage message)
- bool ShouldExecute (SensorMessage message)

Properties

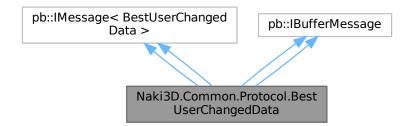
- string **Effect** [get, set]
- Mapping Mapping [get, set]
- TypeEnum Type [get, set]

The documentation for this class was generated from the following files:

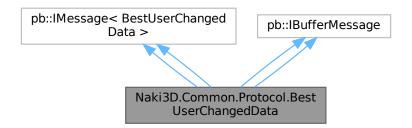
- emt-sdk/Events/Action.cs
- emt-sdk/Generated/ScenePackage/Package.cs

5.2 Naki3D.Common.Protocol.BestUserChangedData Class Reference

Inheritance diagram for Naki3D.Common.Protocol.BestUserChangedData:



Collaboration diagram for Naki3D.Common.Protocol.BestUserChangedData:



Public Member Functions

- BestUserChangedData (BestUserChangedData other)
- BestUserChangedData Clone ()
- override bool **Equals** (object other)
- bool Equals (BestUserChangedData other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (BestUserChangedData other)
- void MergeFrom (pb::CodedInputStream input)
- BestUserChangedData (BestUserChangedData other)
- BestUserChangedData Clone ()
- override bool **Equals** (object other)
- bool Equals (BestUserChangedData other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (BestUserChangedData other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

const int BestUserIdFieldNumber = 1

Field number for the "best_user_id" field.

• const int **UserCountFieldNumber** = 2

Field number for the "user_count" field.

Properties

- static pb::MessageParser < BestUserChangedData > Parser [get]
- static pbr::MessageDescriptor Descriptor [get]
- int BestUserId [get, set]
- int **UserCount** [get, set]

The documentation for this class was generated from the following files:

- emt-sdk/obj/Debug/netstandard2.0/Camera.cs
- emt-sdk/obj/Debug/netstandard2.0/handtracking/Realsense.cs

5.3 emt_sdk.Generated.ScenePackage.CameraAnimation Class Reference

Properties

```
double? Distance [get, set]
double? Height [get, set]
ModelCameraTarget LookAt [get, set]
ModelCameraTarget Origin [get, set]
double? RevolutionTime [get, set]
```

The documentation for this class was generated from the following file:

• emt-sdk/Generated/ScenePackage/Package.cs

5.4 emt_sdk.Generated.ScenePackage.CanvasDimensions Class Reference

Properties

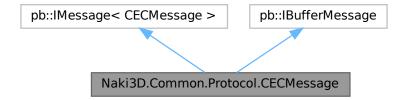
```
long? Height [get, set]long? Width [get, set]
```

The documentation for this class was generated from the following file:

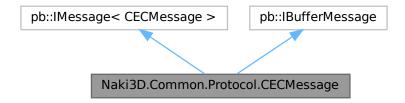
• emt-sdk/Generated/ScenePackage/Package.cs

5.5 Naki3D.Common.Protocol.CECMessage Class Reference

Inheritance diagram for Naki3D.Common.Protocol.CECMessage:



Collaboration diagram for Naki3D.Common.Protocol.CECMessage:



Public Member Functions

- CECMessage (CECMessage other)
- CECMessage Clone ()
- override bool **Equals** (object other)
- bool **Equals** (CECMessage other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (CECMessage other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int ActionFieldNumber = 1

Field number for the "action" field.

Properties

- static pb::MessageParser < CECMessage > Parser [get]
- static pbr::MessageDescriptor **Descriptor** [get]
- global::Naki3D.Common.Protocol.CECAction Action [get, set]

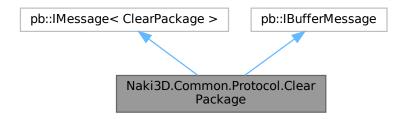
The documentation for this class was generated from the following file:

• emt-sdk/obj/Debug/netstandard2.0/Sensor.cs

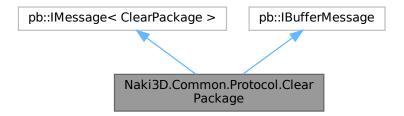
5.6 Naki3D.Common.Protocol.ClearPackage Class Reference

Instructs the device to clear/unload the loaded package, optionally deleting the package data.

Inheritance diagram for Naki3D.Common.Protocol.ClearPackage:



Collaboration diagram for Naki3D.Common.Protocol.ClearPackage:



Public Member Functions

- ClearPackage (ClearPackage other)
- ClearPackage Clone ()
- override bool **Equals** (object other)
- bool Equals (ClearPackage other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (ClearPackage other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

const int PurgeDataFieldNumber = 1
 Field number for the "purge_data" field.

Properties

```
    static pb::MessageParser < ClearPackage > Parser [get]
    static pbr::MessageDescriptor Descriptor [get]
    bool PurgeData [get, set]
```

5.6.1 Detailed Description

Instructs the device to clear/unload the loaded package, optionally deleting the package data.

The documentation for this class was generated from the following file:

• emt-sdk/obj/Debug/netstandard2.0/Commands.cs

5.7 emt_sdk.Settings.ColorSetting.Color Class Reference

Properties

```
    float R = 1f [get, set]
    float G = 1f [get, set]
    float B = 1f [get, set]
```

The documentation for this class was generated from the following file:

· emt-sdk/Settings/ColorSetting.cs

5.8 emt_sdk.Settings.ColorSetting Class Reference

Classes

· class Color

Properties

```
    float Saturation = 1f [get, set]
        Absolute saturation of image (0.0 - 1.0). Does not support HDR.
    float Contrast = 1f [get, set]
        Absolute contrast of image (0.0 - 1.0).
    Color Brightness = new Color() [get, set]
        Multiplicative brightness of image (0.0 - 1.0). IPW does not support HDR.
```

The documentation for this class was generated from the following file:

• emt-sdk/Settings/ColorSetting.cs

5.9 emt sdk.Settings.CommunicationSettings Class Reference

Properties

• string ContentHostname [get, set]

Hostname of the Content Manager server

• int ContentPort = 3917 [get, set]

Port of the Content Manager server

• string SensorListenlp [get, set]

IP used by Events.Local.EventManager for listening for incoming sensor events

• string InterdeviceListenIp [get, set]

IP used by Events.Local.EventManager for listening for other emt_sdk devices

• int EventListenPort = 5000 [get, set]

Port used by Events.Local.EventManager for listening for incoming sensor events and emt_sdk devices. Port is the same for both sensor and interdevice communication, connections get filtered based on their IP.

• string NtpHostname [get, set]

Hostname of NTP server, can be null for default european NTP server defined in Events.NtpScheduler (requires outside internet connection)

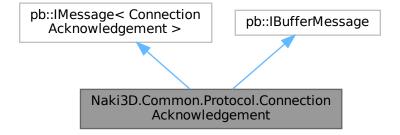
The documentation for this class was generated from the following file:

• emt-sdk/Settings/CommunicationSettings.cs

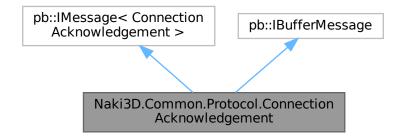
5.10 Naki3D.Common.Protocol.ConnectionAcknowledgement Class Reference

(2) Server -> Device

Inheritance diagram for Naki3D.Common.Protocol.ConnectionAcknowledgement:



Collaboration diagram for Naki3D.Common.Protocol.ConnectionAcknowledgement:



Public Member Functions

- ConnectionAcknowledgement (ConnectionAcknowledgement other)
- ConnectionAcknowledgement Clone ()
- override bool **Equals** (object other)
- bool Equals (ConnectionAcknowledgement other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (ConnectionAcknowledgement other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int ConnectionIdFieldNumber = 1

Field number for the "connection_id" field.

• const int VerifiedFieldNumber = 2

Field number for the "verified" field.

Properties

- static pb::MessageParser < ConnectionAcknowledgement > Parser [get]
- static pbr::MessageDescriptor **Descriptor** [get]
- string ConnectionId [get, set]

server echoes ID back

• bool Verified [get, set]

whether the device is already known to the server

5.10.1 Detailed Description

(2) Server -> Device

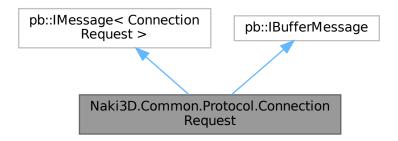
The documentation for this class was generated from the following file:

emt-sdk/obj/Debug/netstandard2.0/Connection.cs

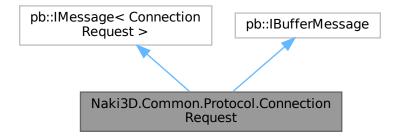
5.11 Naki3D.Common.Protocol.ConnectionRequest Class Reference

(1) Device -> Server

Inheritance diagram for Naki3D.Common.Protocol.ConnectionRequest:



Collaboration diagram for Naki3D.Common.Protocol.ConnectionRequest:



Public Member Functions

- ConnectionRequest (ConnectionRequest other)
- ConnectionRequest Clone ()
- override bool **Equals** (object other)
- bool **Equals** (ConnectionRequest other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (ConnectionRequest other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int ConnectionIdFieldNumber = 1

Field number for the "connection_id" field.

• const int PublicKeyFieldNumber = 2

Field number for the "public_key" field.

Properties

- static pb::MessageParser < ConnectionRequest > Parser [get]
- static pbr::MessageDescriptor **Descriptor** [get]
- string ConnectionId [get, set]

unique ID of connecting PC (e.g. hostname)

pb::ByteString PublicKey [get, set]

Used to later generate (or renew) a certificate for the device.

5.11.1 Detailed Description

(1) Device -> Server

The documentation for this class was generated from the following file:

• emt-sdk/obj/Debug/netstandard2.0/Connection.cs

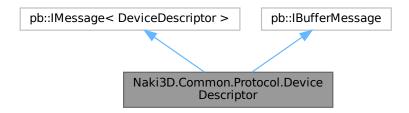
5.12 Naki3D.Common.Protocol.DeviceDescriptor Class Reference

Information for the server to filter out what content the device is capable of (interactively) displaying.

Inheritance diagram for Naki3D.Common.Protocol.DeviceDescriptor:



Collaboration diagram for Naki3D.Common.Protocol.DeviceDescriptor:



Public Member Functions

- DeviceDescriptor (DeviceDescriptor other)
- DeviceDescriptor Clone ()
- override bool Equals (object other)
- bool **Equals** (DeviceDescriptor other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (DeviceDescriptor other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int TypeFieldNumber = 1

Field number for the "type" field.

• const int **PerformanceCapFieldNumber** = 2

Field number for the "performanceCap" field.

• const int LocalSensorsFieldNumber = 3

Field number for the "localSensors" field.

Properties

- static pb::MessageParser < DeviceDescriptor > Parser [get]
- static pbr::MessageDescriptor **Descriptor** [get]
- global::Naki3D.Common.Protocol.DeviceType Type [get, set]
- global::Naki3D.Common.Protocol.PerformanceCap PerformanceCap [get, set]
- pbc::RepeatedField < global::Naki3D.Common.Protocol.SensorType > LocalSensors [get]

These sensors are expected to always be available: Time, Mobile app

5.12.1 Detailed Description

Information for the server to filter out what content the device is capable of (interactively) displaying.

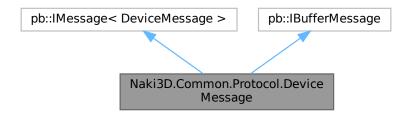
The documentation for this class was generated from the following file:

• emt-sdk/obj/Debug/netstandard2.0/Connection.cs

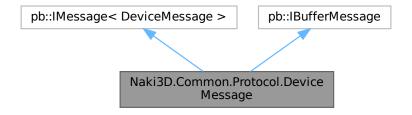
5.13 Naki3D.Common.Protocol.DeviceMessage Class Reference

Device -> Server Message wrapper, same as above.

Inheritance diagram for Naki3D.Common.Protocol.DeviceMessage:



Collaboration diagram for Naki3D.Common.Protocol.DeviceMessage:



Public Types

• enum MessageOneofCase

Enum of possible cases for the "message" oneof.

Public Member Functions

- **DeviceMessage** (DeviceMessage other)
- DeviceMessage Clone ()
- void ClearMessage ()
- override bool **Equals** (object other)
- bool **Equals** (DeviceMessage other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (DeviceMessage other)
- · void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int ConnectionIdFieldNumber = 1

Field number for the "connection_id" field.

• const int **DeviceDescriptorFieldNumber** = 16

Field number for the "device_descriptor" field.

• const int **PingFieldNumber** = 17

Field number for the "ping" field.

Properties

```
    static pb::MessageParser < DeviceMessage > Parser [get]
```

- static pbr::MessageDescriptor Descriptor [get]
- string ConnectionId [get, set]
- global::Naki3D.Common.Protocol.DeviceDescriptor DeviceDescriptor [get, set]
 connection.proto
- global::Naki3D.Common.Protocol.Ping Ping [get, set]
- MessageOneofCase MessageCase [get]

5.13.1 Detailed Description

Device -> Server Message wrapper, same as above.

The documentation for this class was generated from the following file:

• emt-sdk/obj/Debug/netstandard2.0/Wrappers.cs

5.14 emt_sdk.Settings.DisplaySetting Class Reference

Properties

```
• int DisplayId [get, set]
```

Id of display as defined in Unity. Should match display numbers in Windows / xorg.

```
    ColorSetting Color = new ColorSetting() [get, set]
```

Color transformation settings

• SkewSetting Skew = new SkewSetting() [get, set]

Keystone transformation settings

float CrossOver [get, set]

Relative percantage of image (0.0 - 1.0) that should be overlayed in the middle. This is used for a smoother transition in the middle of the IPW.

The documentation for this class was generated from the following file:

• emt-sdk/Settings/DisplaySetting.cs

5.15 emt_sdk.Events.EffectCall Class Reference

Properties

```
string Name [get, set]double? Value [get, set]
```

The documentation for this class was generated from the following file:

• emt-sdk/Events/EffectCall.cs

5.16 emt_sdk.Generated.ScenePackage.Element Class Reference

Properties

```
string Hostname [get, set]
string Role [get, set]
string ViewportTransform [get, set]
Viewport Viewport [get]
```

The documentation for this class was generated from the following files:

- emt-sdk/Generated/ScenePackage/Package.cs
- emt-sdk/ScenePackage/Element.cs

5.17 emt_sdk.Settings.EmtSetting Class Reference

Settings for the entire EMT device

Public Member Functions

· void Save ()

Static Public Member Functions

Name of default package loaded at startup

• static EmtSetting FromConfig ()

Attempts to load the config from the default location, otherwise returns null

Properties

```
    static bool ConfigExists [get]
    DeviceType Type [get, set]
        Type of current device
    PerformanceCap PerformanceCap [get, set]
        Performance capabilities of current device
    CommunicationSettings Communication = new CommunicationSettings() [get, set]
        Settings for all remote connections
    string StartupPackage [get, set]
```

5.17.1 Detailed Description

Settings for the entire EMT device

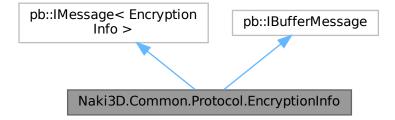
The documentation for this class was generated from the following file:

• emt-sdk/Settings/EmtSetting.cs

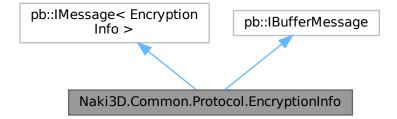
5.18 Naki3D.Common.Protocol.EncryptionInfo Class Reference

For setting up p2p encryption in case of

Inheritance diagram for Naki3D.Common.Protocol.EncryptionInfo:



Collaboration diagram for Naki3D.Common.Protocol.EncryptionInfo:



Public Member Functions

- EncryptionInfo (EncryptionInfo other)
- EncryptionInfo Clone ()
- override bool Equals (object other)
- bool **Equals** (EncryptionInfo other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void **MergeFrom** (EncryptionInfo other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int DeviceCertificateFieldNumber = 1

Field number for the "deviceCertificate" field.

• const int ManagementKeysFieldNumber = 2

Field number for the "managementKeys" field.

Properties

- static pb::MessageParser< EncryptionInfo > Parser [get]
- static pbr::MessageDescriptor **Descriptor** [get]
- pb::ByteString DeviceCertificate [get, set]

Certificate signed by the server to identify the device.

pbc::RepeatedField< pb::ByteString > ManagementKeys [get]

Keys for remote management (without central server) authorization.

5.18.1 Detailed Description

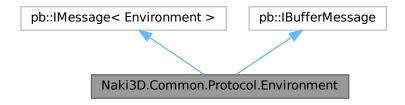
For setting up p2p encryption in case of

The documentation for this class was generated from the following file:

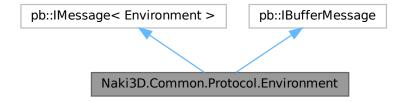
• emt-sdk/obj/Debug/netstandard2.0/Connection.cs

5.19 Naki3D.Common.Protocol.Environment Class Reference

Inheritance diagram for Naki3D.Common.Protocol.Environment:



Collaboration diagram for Naki3D.Common.Protocol.Environment:



Classes

· class Types

Container for nested types declared in the Environment message type.

Public Member Functions

- Environment (Environment other)
- Environment Clone ()
- override bool Equals (object other)
- bool **Equals** (Environment other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void **MergeFrom** (Environment other)
- · void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int EngineTypeFieldNumber = 1

Field number for the "engine_type" field.

• const int EngineVersionFieldNumber = 2

Field number for the "engine version" field.

Properties

- static pb::MessageParser < Environment > Parser [get]
- static pbr::MessageDescriptor **Descriptor** [get]
- global::Naki3D.Common.Protocol.Environment.Types.Engine EngineType [get, set]
- string EngineVersion [get, set]

Following could be added later to allow windows support. We'd have to solve rebooting, running other content on win as well, etc. enum OS { LINUX = 0; WINDOWS = 1; } OS target_os = 3;

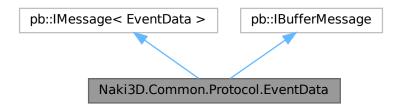
The documentation for this class was generated from the following file:

emt-sdk/obj/Debug/netstandard2.0/Resource.cs

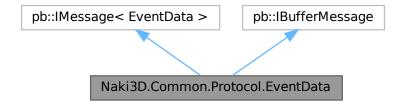
5.20 Naki3D.Common.Protocol.EventData Class Reference

Device -> Device

Inheritance diagram for Naki3D.Common.Protocol.EventData:



 $Collaboration\ diagram\ for\ Naki 3D. Common. Protocol. Event Data:$



Public Member Functions

- EventData (EventData other)
- EventData Clone ()
- · override bool Equals (object other)
- bool **Equals** (EventData other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (EventData other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int NameFieldNumber = 1

Field number for the "name" field.

• const int ParametersFieldNumber = 2

Field number for the "parameters" field.

Properties

- static pb::MessageParser < EventData > Parser [get]
- static pbr::MessageDescriptor **Descriptor** [get]
- string Name [get, set]
- string Parameters [get, set]

No strict definition, can be context-specific

5.20.1 Detailed Description

Device -> Device

The documentation for this class was generated from the following file:

· emt-sdk/obj/Debug/netstandard2.0/Event.cs

5.21 emt sdk.Events.EventManager Class Reference

Public Member Functions

• delegate void SensorMessageHandler (SensorMessage message)

Handler for processing sensor data

• delegate void EffectHandler (EffectCall e)

Handler for executing effects

void ConnectSensor (CommunicationSettings settings)

Hosts a local sensor server. This method will not block the current thread.

void ConnectRemote (Sync sync, CommunicationSettings settings)

Connects to remote interdevice relay or hosts one depending on sync . This method will not block the current thread.

• void BroadcastEvent (SensorMessage message)

Properties

- static EventManager Instance = new EventManager() [get]
- SensorManager SensorManager [get]
- InterdeviceEventRelay InterdeviceEventRelay [get]
- OutgoingEventConnection OutgoingEventConnection [get]
- bool IsInterdeviceRelay [get]
- bool ConnectedRemote = false [get]
- List< Action > Actions = new List<Action>() [get]

Events

• SensorMessageHandler OnEventReceived

Called whenever an event is received either locally, from other device or from a relay

• EffectHandler OnEffectCalled

Called whenever an effect is executed

5.21.1 Member Function Documentation

5.21.1.1 ConnectRemote()

Connects to remote interdevice relay or hosts one depending on sync. This method will not block the current thread.

Parameters

sync	emt_sdk device information
settings	Network settings

Exceptions

```
InvalidOperationException
```

5.21.1.2 ConnectSensor()

Hosts a local sensor server. This method will not block the current thread.

Parameters

settings

Exceptions

InvalidOperationException

5.21.1.3 SensorMessageHandler()

```
\begin{tabular}{ll} $\tt delegate \ void \ emt\_sdk.Events.EventManager.SensorMessageHandler \ ( \\ & SensorMessage \ message \ ) \end{tabular}
```

Handler for processing sensor data

Parameters

message

The documentation for this class was generated from the following file:

• emt-sdk/Events/EventManager.cs

5.22 emt_sdk.Events.Relay.EventRelayClient Class Reference

Client event relaying connection for any external applications using emt_sdk events. Receives master local, remote and events sent through this client.

Public Member Functions

void Connect (int port=EventRelayServer.RELAY_PORT)

Connects to a master server for sending and receiving events, only tries the loopback interface. Blocking call, run this in a separate thread/task.

void BroadcastEvent (SensorMessage message)

Broadcasts an event to the master relay server which will send it to all other connected devices.

Public Attributes

CancellationTokenSource TokenSource

Token source for closing socket connection, may be closed after receiving one more event

Properties

bool IsConnected [get]

Whether the client is currently connected to a server. Verify this before sending any events

Events

• SensorMessageHandler OnEventReceived

Called whenever a SensorMessage is received from relay server

5.22.1 Detailed Description

Client event relaying connection for any external applications using emt_sdk events. Receives master local, remote and events sent through this client.

5.22.2 Member Function Documentation

5.22.2.1 BroadcastEvent()

Broadcasts an event to the master relay server which will send it to all other connected devices.

Exceptions

ArgumentNullException	Thrown when passed event is null
InvalidOperationException	Thrown when client is not connected

Parameters

message	Event to be sent

5.22.2.2 Connect()

Connects to a master server for sending and receiving events, only tries the loopback interface. Blocking call, run this in a separate thread/task.

Exceptions

SocketException Thrown on any socket related problem
--

Parameters

port	Target server port
------	--------------------

The documentation for this class was generated from the following file:

• emt-sdk/Events/Relay/EventRelayClient.cs

5.23 emt_sdk.Events.Relay.EventRelayServer Class Reference

Server event relaying connection for any external applications using emt_sdk events. Relays local, remote and even relayed events to a connected EventRelayClient. This should not be used in user code and is only for the main managing application.

Public Member Functions

- void Listen (int port=RELAY_PORT)
 - Starts listening on port on the loopback interface. Blocking call, run this in a separate thread/task.
- void RelayLocalEvent (SensorMessage message)

Relays a message to the connected client that is not sent to any other device. Should be used only for debugging purposes.

Public Attributes

• CancellationTokenSource TokenSource

Token source for closing socket connection, may be closed after receiving one more event

Static Public Attributes

• const int **RELAY_PORT** = 49155

Default relay listening port

Properties

• bool IsConnected [get]

Whether the server is connected to a matching client

5.23.1 Detailed Description

Server event relaying connection for any external applications using emt_sdk events. Relays local, remote and even relayed events to a connected EventRelayClient. This should not be used in user code and is only for the main managing application.

5.23.2 Member Function Documentation

5.23.2.1 Listen()

Starts listening on port on the loopback interface. Blocking call, run this in a separate thread/task.

Exceptions

SocketException	Thrown on any socket related problem	
-----------------	--------------------------------------	--

Parameters

```
port Listening port
```

5.23.2.2 RelayLocalEvent()

Relays a message to the connected client that is not sent to any other device. Should be used only for debugging purposes.

Exceptions

ArgumentNullException	Thrown when passed event is null
InvalidOperationException	Thrown when server is not connected

Parameters

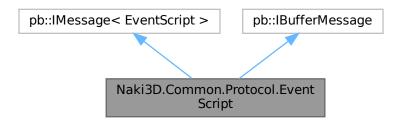
message	Event to be sent
---------	------------------

The documentation for this class was generated from the following file:

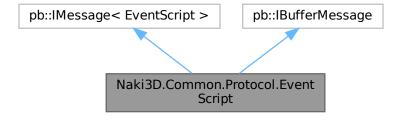
• emt-sdk/Events/Relay/EventRelayServer.cs

5.24 Naki3D.Common.Protocol.EventScript Class Reference

Inheritance diagram for Naki3D.Common.Protocol.EventScript:



Collaboration diagram for Naki3D.Common.Protocol.EventScript:



Public Member Functions

- EventScript (EventScript other)
- EventScript Clone ()
- override bool **Equals** (object other)
- bool **Equals** (EventScript other)
- override int GetHashCode ()
- override string **ToString** ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (EventScript other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int NameFieldNumber = 1

Field number for the "name" field.

• const int IdFieldNumber = 3

Field number for the "id" field.

Properties

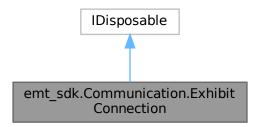
- static pb::MessageParser< EventScript > Parser [get]
- static pbr::MessageDescriptor **Descriptor** [get]
- string Name [get, set]
- string ld [get, set]

The documentation for this class was generated from the following file:

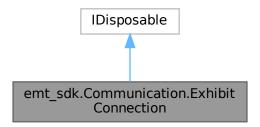
• emt-sdk/obj/Debug/netstandard2.0/Resource.cs

5.25 emt_sdk.Communication.ExhibitConnection Class Reference

Inheritance diagram for emt_sdk.Communication.ExhibitConnection:



Collaboration diagram for emt_sdk.Communication.ExhibitConnection:



Public Member Functions

- ExhibitConnection (CommunicationSettings settings, DeviceDescriptor descriptor, string id=null)
- void Connect ()
- void **Dispose** ()

Properties

```
    bool IsConnected [get]
    bool Verified = false [get]
    VersionInfo ClientVersion [get]
    VersionInfo ServerVersion [get]
    ConnectionStateEnum ConnectionState = ConnectionStateEnum.Disconnected [get]
    EncryptionInfo EncryptionInfo = null [get]
    float ReconnectInterval = 5000 [get, set]
        Gets or sets the reconnect interval in ms
    Action
    LoadPackage > LoadPackageHandler [get, set]
```

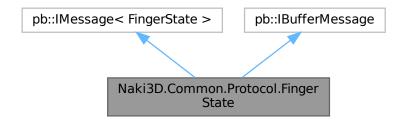
The documentation for this class was generated from the following file:

• Action< ClearPackage > ClearPackageHandler [get, set]

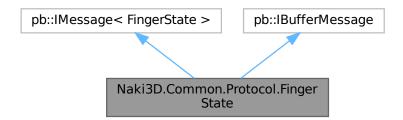
• emt-sdk/Communication/ExhibitConnection.cs

5.26 Naki3D.Common.Protocol.FingerState Class Reference

Inheritance diagram for Naki3D.Common.Protocol.FingerState:



Collaboration diagram for Naki3D.Common.Protocol.FingerState:



Public Member Functions

- FingerState (FingerState other)
- FingerState Clone ()
- override bool Equals (object other)
- bool Equals (FingerState other)
- override int GetHashCode ()
- override string **ToString** ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (FingerState other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int ClosedFieldNumber = 1

Field number for the "closed" field.

• const int PositionFieldNumber = 2

Field number for the "position" field.

Properties

```
    static pb::MessageParser < FingerState > Parser [get]
    static pbr::MessageDescriptor Descriptor [get]
```

• bool Closed [get, set]

Whether joints are bent

global::Naki3D.Common.Protocol.Vector3 Position [get, set]

Fingertip position relative to wrist

The documentation for this class was generated from the following file:

• emt-sdk/obj/Debug/netstandard2.0/handtracking/Mediapipe.cs

5.27 emt sdk.Scene.GltfObject.Flag Class Reference

Description flag in model

Properties

```
• GltfLocation Location [get, set]
```

Location of flag

• string **Text** [get, set]

Displayed text

• string Activated Action [get, set]

Action to execute on flag activation, null if no action should be performed.

string SelectedAction [get, set]

Action to execute on flag selection, null if no action should be performed.

- string ForegroundColor [get, set]
- string BackgroundColor [get, set]
- string StalkColor [get, set]
- bool CanSelect [get, set]

Whether this flag can be selected. Value of false disables both Activated Action and Selected Action.

5.27.1 Detailed Description

Description flag in model

The documentation for this class was generated from the following file:

· emt-sdk/Scene/GltfObject.cs

5.28 emt sdk.Scene.Gallery Class Reference

Definition of gallery specific data

Classes

· class GalleryImage

Single gallery image

- · class GalleryLayout
- · class GridLayout

Layout where images are aligned in a grid, wrapping?

· class ListLayout

Layout where images are laid in a single line, wrapping after reaching the end of the list

Public Types

· enum GalleryLayoutEnum

Layout of the gallery images

Properties

GalleryLayoutEnum LayoutType [get, set]

Active layout for this gallery

• GalleryLayout Layout [get, set]

Parameters of the specific layout in LayoutType

Vector2 Padding [get, set]

Percentage of screen space along the edges used as padding from 0.0 to 1.0 (e.g. (0.2, 0.1) would be 20% horizontally and 10% vertically).

float ScrollDelay [get, set]

How long should the delay between automatic scrolling steps in seconds. Value of 0 disables automatic scrolling.

• float SlideAnimationLength [get, set]

How long the scroll animation itself should be in seconds (default is 0.3s)

• string BackgroundColor [get, set]

Background color in hex, formatted as #RRGGBB (e.g. #A1FF12)

5.28.1 Detailed Description

Definition of gallery specific data

The documentation for this class was generated from the following file:

• emt-sdk/Scene/Gallery.cs

5.29 emt sdk.Generated.ScenePackage.GalleryImage Class Reference

Properties

```
string ActivatedEvent [get, set]
string FileName [get, set]
string SelectedEvent [get, set]
```

The documentation for this class was generated from the following file:

• emt-sdk/Generated/ScenePackage/Package.cs

5.30 emt_sdk.Scene.Gallery.GalleryImage Class Reference

Single gallery image

Properties

```
    string FileName [get, set]
        Image file path
    string ActivatedAction [get, set]
    Executed action when image is activated (specifically interacted with)
    string SelectedAction [get, set]
```

Executed action when image is selected (either through AutoScroll or through manual interacion)

5.30.1 Detailed Description

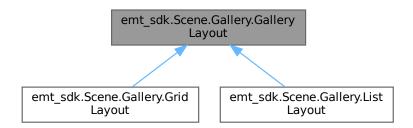
Single gallery image

The documentation for this class was generated from the following file:

• emt-sdk/Scene/Gallery.cs

5.31 emt_sdk.Scene.Gallery.GalleryLayout Class Reference

 $Inheritance\ diagram\ for\ emt_sdk. Scene. Gallery. Gallery Layout:$



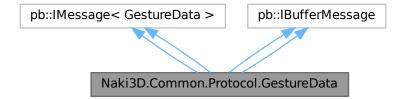
The documentation for this class was generated from the following file:

• emt-sdk/Scene/Gallery.cs

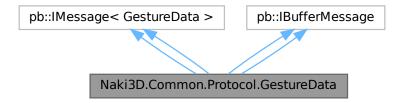
5.32 Naki3D.Common.Protocol.GestureData Class Reference

Raspi -> Device

Inheritance diagram for Naki3D.Common.Protocol.GestureData:



Collaboration diagram for Naki3D.Common.Protocol.GestureData:



Public Member Functions

- GestureData (GestureData other)
- GestureData Clone ()
- override bool Equals (object other)
- bool Equals (GestureData other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (GestureData other)
- void MergeFrom (pb::CodedInputStream input)
- GestureData (GestureData other)
- GestureData Clone ()
- · override bool Equals (object other)
- bool Equals (GestureData other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (GestureData other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int TypeFieldNumber = 1

Field number for the "type" field.

• const int UserIdFieldNumber = 2

Field number for the "user_id" field.

Properties

- static pb::MessageParser < GestureData > Parser [get]
- static pbr::MessageDescriptor **Descriptor** [get]
- global::Naki3D.Common.Protocol.GestureType Type [get, set]
- int **UserId** [get, set]
- global::Naki3D.Common.Protocol.HandGestureType Type [get, set]

5.32.1 Detailed Description

Raspi -> Device

The documentation for this class was generated from the following files:

- · emt-sdk/obj/Debug/netstandard2.0/Camera.cs
- emt-sdk/obj/Debug/netstandard2.0/handtracking/Realsense.cs

5.33 emt_sdk.Scene.GltfObject.GltfLocation Class Reference

Location inside a GLTF Model

Properties

• string ObjectName [get, set]

Name of a GLTF object to be used as a poistion. If null Position is used instead.

• Vector3 Offset = new Vector3() [get, set]

Offset coordinates in model space relative to ObjectName or scene root if it is null.

5.33.1 Detailed Description

Location inside a GLTF Model

The documentation for this class was generated from the following file:

· emt-sdk/Scene/GltfObject.cs

5.34 emt_sdk.Scene.GltfObject Class Reference

Definition of 3D scene specific data

Classes

· class Flag

Description flag in model

· class GltfLocation

Location inside a GLTF Model

• interface ICameraAnimation

Base interface for all animations

· class OrbitAnimation

Camera cylinder orbit definition

Public Types

• enum FlagInteractionTypeEnum

Defines how the user interacts with flags

Properties

• string FileName [get, set]

Name of the input GLTF file

• string **Skybox** [get, set]

Name of the skybox cubemap file, white if no file is specified

• string **SkyboxTint** [get, set]

Tint applied to the skybox, background color if no skybox is specified

- ICameraAnimation CameraAnimation [get, set]
- FlagInteractionTypeEnum FlagInteraction = FlagInteractionTypeEnum.Swipe [get, set]
- List< Flag > Flags [get, set]

List of displayed flags on the model. Order of flags in this list will be used to define order of selection during interaction if FlagInteraction is equal to FlagInteractionTypeEnum.Swipe.

5.34.1 Detailed Description

Definition of 3D scene specific data

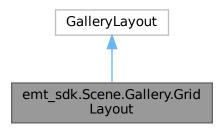
The documentation for this class was generated from the following file:

• emt-sdk/Scene/GltfObject.cs

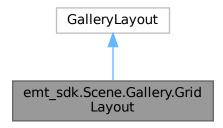
5.35 emt_sdk.Scene.Gallery.GridLayout Class Reference

Layout where images are aligned in a grid, wrapping?

Inheritance diagram for emt_sdk.Scene.Gallery.GridLayout:



 $Collaboration\ diagram\ for\ emt_sdk. Scene. Gallery. Grid Layout:$



Properties

- int Width [get, set]
 - Width of the grid
- int **Height** [get, set]

Height of the grid

- float VerticalSpacing [get, set]
 - Percentage of screen space used between rows of the grid from 0.0 to 1.0
- float HorizontalSpacing [get, set]

Percentage of screen space used between columns of the grid from 0.0 to 1.0

• GalleryImage[,] Images [get, set]

5.35.1 Detailed Description

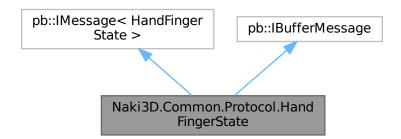
Layout where images are aligned in a grid, wrapping?

The documentation for this class was generated from the following file:

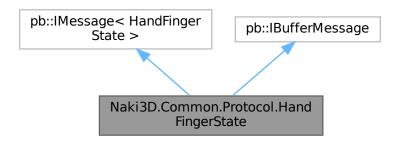
• emt-sdk/Scene/Gallery.cs

5.36 Naki3D.Common.Protocol.HandFingerState Class Reference

Inheritance diagram for Naki3D.Common.Protocol.HandFingerState:



Collaboration diagram for Naki3D.Common.Protocol.HandFingerState:



Public Member Functions

- HandFingerState (HandFingerState other)
- HandFingerState Clone ()
- override bool **Equals** (object other)
- bool **Equals** (HandFingerState other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (HandFingerState other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

- const int ThumbFieldNumber = 1
 - Field number for the "thumb" field.
- const int IndexFieldNumber = 2
 - Field number for the "index" field.
- const int MiddleFieldNumber = 3
 - Field number for the "middle" field.
- const int RingFieldNumber = 4
 - Field number for the "ring" field.
- const int PinkyFieldNumber = 5
 - Field number for the "pinky" field.

Properties

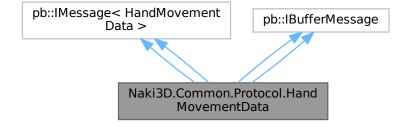
- static pb::MessageParser < HandFingerState > Parser [get]
- static pbr::MessageDescriptor Descriptor [get]
- global::Naki3D.Common.Protocol.FingerState **Thumb** [get, set]
- global::Naki3D.Common.Protocol.FingerState Index [get, set]
- global::Naki3D.Common.Protocol.FingerState Middle [get, set]
- global::Naki3D.Common.Protocol.FingerState Ring [get, set]
- global::Naki3D.Common.Protocol.FingerState Pinky [get, set]

The documentation for this class was generated from the following file:

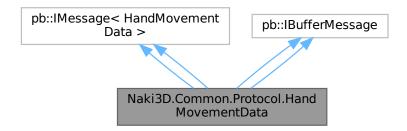
• emt-sdk/obj/Debug/netstandard2.0/handtracking/Mediapipe.cs

5.37 Naki3D.Common.Protocol.HandMovementData Class Reference

Inheritance diagram for Naki3D.Common.Protocol.HandMovementData:



Collaboration diagram for Naki3D.Common.Protocol.HandMovementData:



Public Member Functions

- HandMovementData (HandMovementData other)
- HandMovementData Clone ()
- override bool **Equals** (object other)
- bool Equals (HandMovementData other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (HandMovementData other)
- void MergeFrom (pb::CodedInputStream input)
- HandMovementData (HandMovementData other)
- HandMovementData Clone ()
- override bool **Equals** (object other)
- bool Equals (HandMovementData other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (HandMovementData other)
- · void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int HandFieldNumber = 1

Field number for the "hand" field.

• const int **ProjPositionFieldNumber** = 2

Field number for the "proj_position" field.

• const int OpenHandFieldNumber = 3

Field number for the "open_hand" field.

• const int UserldFieldNumber = 4

Field number for the "user_id" field.

Properties

- $\bullet \ \ static\ pb:: Message Parser < Hand Movement Data > \textbf{Parser} \quad \texttt{[get]}$
- static pbr::MessageDescriptor Descriptor [get]
- global::Naki3D.Common.Protocol.HandType Hand [get, set]
- $\bullet \ \ global:: Naki 3D. Common. Protocol. Vector 3 \ \textbf{ProjPosition} \quad [\texttt{get, set}]$
- (x, y from 0.0 to 1.0, z is real)bool OpenHand [get, set]
- int **UserId** [get, set]
- global::Naki3D.Common.Protocol.HandSide Hand [get, set]

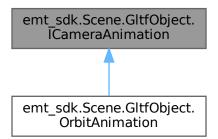
The documentation for this class was generated from the following files:

- emt-sdk/obj/Debug/netstandard2.0/Camera.cs
- emt-sdk/obj/Debug/netstandard2.0/handtracking/Realsense.cs

5.38 emt sdk.Scene.GltfObject.ICameraAnimation Interface Reference

Base interface for all animations

Inheritance diagram for emt_sdk.Scene.GltfObject.ICameraAnimation:



5.38.1 Detailed Description

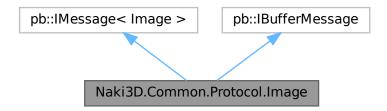
Base interface for all animations

The documentation for this interface was generated from the following file:

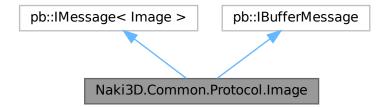
• emt-sdk/Scene/GltfObject.cs

5.39 Naki3D.Common.Protocol.Image Class Reference

Inheritance diagram for Naki3D.Common.Protocol.Image:



Collaboration diagram for Naki3D.Common.Protocol.Image:



Classes

class Types

Container for nested types declared in the Image message type.

Public Member Functions

- Image (Image other)
- Image Clone ()
- override bool **Equals** (object other)
- bool Equals (Image other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (Image other)
- · void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

- const int ImagesFieldNumber = 1
 - Field number for the "images" field.
- const int ImagePresentationFieldNumber = 2

Field number for the "image_presentation" field.

Properties

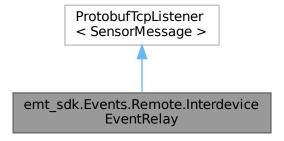
- static pb::MessageParser < Image > Parser [get]
- static pbr::MessageDescriptor Descriptor [get]
- pbc::RepeatedField< pb::ByteString > Images [get]
- global::Naki3D.Common.Protocol.Image.Types.Presentation ImagePresentation [qet, set]

The documentation for this class was generated from the following file:

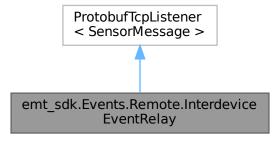
• emt-sdk/obj/Debug/netstandard2.0/Resource.cs

5.40 emt_sdk.Events.Remote.InterdeviceEventRelay Class Reference

Inheritance diagram for emt_sdk.Events.Remote.InterdeviceEventRelay:



Collaboration diagram for emt sdk.Events.Remote.InterdeviceEventRelay:



Public Member Functions

- InterdeviceEventRelay (CommunicationSettings settings)
- void BroadcastSensorMessage (SensorMessage message)

Protected Member Functions

• override void HandleMessage (SensorMessage message, NetworkStream stream)

Events

• SensorMessageHandler OnMessage

Additional Inherited Members

The documentation for this class was generated from the following file:

• emt-sdk/Events/Remote/InterdeviceEventRelay.cs

5.41 emt_sdk.Settings.IPWSetting Class Reference

Settings for an Interactive Projection Wall

Public Types

· enum IPWOrientation

Available layouts of connected projectors

Properties

```
• float LensShift = 0.5f [get, set]
```

Relative rendering offset (0.0 - 1.0) between projectors. Ignored in IPWOrientation. Single layout

- IPWOrientation Orientation = IPWOrientation.Horizontal [get, set]

 Currently active layout
- List< DisplaySetting > Displays = new List<DisplaySetting>() [get, set]

Display transformations for individual displays

5.41.1 Detailed Description

Settings for an Interactive Projection Wall

The documentation for this class was generated from the following file:

• emt-sdk/Settings/IPWSetting.cs

5.42 emt_sdk.Communication.JsonObjectStringReader Class Reference

Public Member Functions

- JsonObjectStringReader (Stream inputStream, int bufferSize=1024)
- string NextJsonObject ()

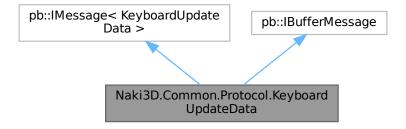
The documentation for this class was generated from the following file:

• emt-sdk/Communication/JsonObjectStringReader.cs

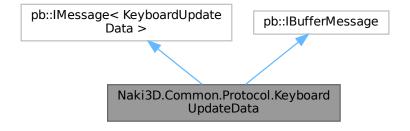
5.43 Naki3D.Common.Protocol.KeyboardUpdateData Class Reference

Raspi -> Device

Inheritance diagram for Naki3D.Common.Protocol.KeyboardUpdateData:



Collaboration diagram for Naki3D.Common.Protocol.KeyboardUpdateData:



Public Member Functions

- KeyboardUpdateData (KeyboardUpdateData other)
- KeyboardUpdateData Clone ()
- override bool **Equals** (object other)
- bool Equals (KeyboardUpdateData other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (KeyboardUpdateData other)
- · void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int TypeFieldNumber = 1

Field number for the "type" field.

• const int **KeycodeFieldNumber** = 2

Field number for the "keycode" field.

Properties

```
    static pb::MessageParser < KeyboardUpdateData > Parser [get]
```

- static pbr::MessageDescriptor **Descriptor** [get]
- global::Naki3D.Common.Protocol.KeyActionType Type [get, set]
- int Keycode [get, set]

5.43.1 Detailed Description

Raspi -> Device

The documentation for this class was generated from the following file:

• emt-sdk/obj/Debug/netstandard2.0/Keyboard.cs

5.44 emt sdk.Generated.ScenePackage.Layout Class Reference

Properties

```
• double? Height [get, set]
```

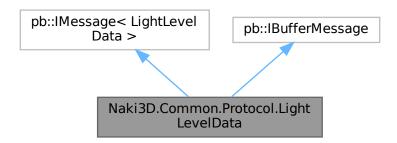
- double? HorizontalSpacing [get, set]
- List< GalleryImage > Images [get, set]
- double? **VerticalSpacing** [get, set]
- double? Width [get, set]
- double? **Spacing** [get, set]
- double? VisibleImages [get, set]

The documentation for this class was generated from the following file:

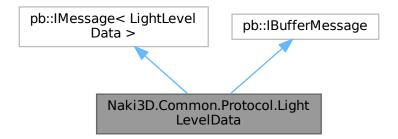
• emt-sdk/Generated/ScenePackage/Package.cs

5.45 Naki3D.Common.Protocol.LightLevelData Class Reference

Inheritance diagram for Naki3D.Common.Protocol.LightLevelData:



 $Collaboration\ diagram\ for\ Naki 3D. Common. Protocol. Light Level Data:$



Public Member Functions

- LightLevelData (LightLevelData other)
- LightLevelData Clone ()
- override bool **Equals** (object other)
- bool Equals (LightLevelData other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (LightLevelData other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

const int LevelFieldNumber = 1
 Field number for the "level" field.

Properties

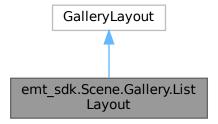
- static pb::MessageParser< LightLevelData > Parser [get]
- static pbr::MessageDescriptor **Descriptor** [get]
- float Level [get, set]

The documentation for this class was generated from the following file:

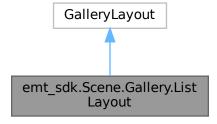
• emt-sdk/obj/Debug/netstandard2.0/Sensor.cs

5.46 emt sdk.Scene.Gallery.ListLayout Class Reference

Layout where images are laid in a single line, wrapping after reaching the end of the list Inheritance diagram for emt_sdk.Scene.Gallery.ListLayout:



Collaboration diagram for emt_sdk.Scene.Gallery.ListLayout:



Properties

```
• int VisibleImages [get, set]

Amount of images visible at any given time
```

• float **Spacing** [get, set]

Percentage of screen space used between individual images (not on screen border) from 0.0 to 1.0

• GalleryImage[] Images [get, set]

List of displayed images

5.46.1 Detailed Description

Layout where images are laid in a single line, wrapping after reaching the end of the list

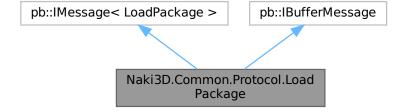
The documentation for this class was generated from the following file:

• emt-sdk/Scene/Gallery.cs

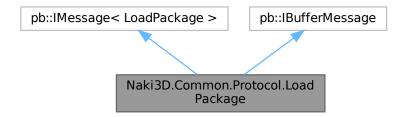
5.47 Naki3D.Common.Protocol.LoadPackage Class Reference

Instructs the device to load the specified resource and start displaying it.

Inheritance diagram for Naki3D.Common.Protocol.LoadPackage:



Collaboration diagram for Naki3D.Common.Protocol.LoadPackage:



Public Member Functions

- LoadPackage (LoadPackage other)
- LoadPackage Clone ()
- override bool Equals (object other)
- bool **Equals** (LoadPackage other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (LoadPackage other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int **DescriptorJsonFieldNumber** = 1

Field number for the "descriptor_json" field.

• const int IsPreviewFieldNumber = 2

Field number for the "is_preview" field.

Properties

- static pb::MessageParser < LoadPackage > Parser [get]
- static pbr::MessageDescriptor **Descriptor** [get]
- string **DescriptorJson** [get, set]
- bool IsPreview [get, set]

Loading for preview could skip dependencies for faster download.

5.47.1 Detailed Description

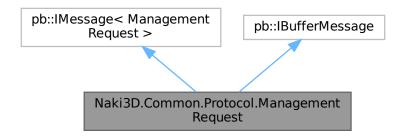
Instructs the device to load the specified resource and start displaying it.

The documentation for this class was generated from the following file:

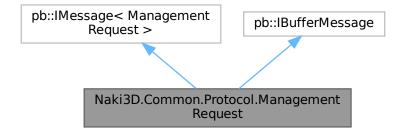
• emt-sdk/obj/Debug/netstandard2.0/Commands.cs

5.48 Naki3D.Common.Protocol.ManagementRequest Class Reference

We've covered there's going to be an optional management app, but not the capabilities, just a placeholder Inheritance diagram for Naki3D.Common.Protocol.ManagementRequest:



Collaboration diagram for Naki3D.Common.Protocol.ManagementRequest:



Classes

· class Types

Container for nested types declared in the ManagementRequest message type.

Public Member Functions

- ManagementRequest (ManagementRequest other)
- ManagementRequest Clone ()
- override bool **Equals** (object other)
- bool **Equals** (ManagementRequest other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (ManagementRequest other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int ConnectionIdFieldNumber = 1

Field number for the "connection_id" field.

• const int ManagementTypeFieldNumber = 2

Field number for the "management_type" field.

Properties

- static pb::MessageParser< ManagementRequest > Parser [get]
- static pbr::MessageDescriptor Descriptor [get]
- string ConnectionId [get, set]

ID of target PC

global::Naki3D.Common.Protocol.ManagementRequest.Types.ManagementType
 [get, set]

5.48.1 Detailed Description

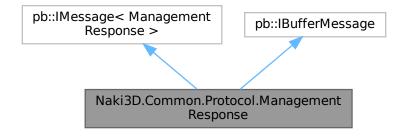
We've covered there's going to be an optional management app, but not the capabilities, just a placeholder

The documentation for this class was generated from the following file:

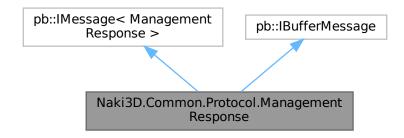
• emt-sdk/obj/Debug/netstandard2.0/Management.cs

5.49 Naki3D.Common.Protocol.ManagementResponse Class Reference

Inheritance diagram for Naki3D.Common.Protocol.ManagementResponse:



Collaboration diagram for Naki3D.Common.Protocol.ManagementResponse:



Classes

· class Types

Container for nested types declared in the ManagementResponse message type.

Public Member Functions

- ManagementResponse (ManagementResponse other)
- ManagementResponse Clone ()
- override bool Equals (object other)
- bool Equals (ManagementResponse other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (ManagementResponse other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

const int DeviceStatusFieldNumber = 1

Field number for the "device_status" field.

Properties

- static pb::MessageParser < ManagementResponse > Parser [get]
- static pbr::MessageDescriptor Descriptor [get]
- $\bullet \quad \mathsf{global::Naki3D.Common.Protocol.ManagementResponse.Types.DeviceStatus } \quad \mathsf{DeviceStatus} \quad \mathsf{[get, set]}$

The documentation for this class was generated from the following file:

emt-sdk/obj/Debug/netstandard2.0/Management.cs

5.50 emt sdk.Generated.ScenePackage.Mapping Class Reference

Properties

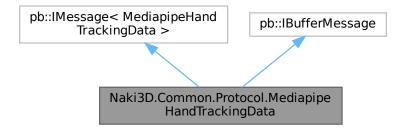
```
string EventName [get, set]
string Source [get, set]
Condition? Condition [get, set]
string Threshold [get, set]
ThresholdType? ThresholdType [get, set]
double? InMax [get, set]
double? OutMax [get, set]
double? OutMin [get, set]
```

The documentation for this class was generated from the following file:

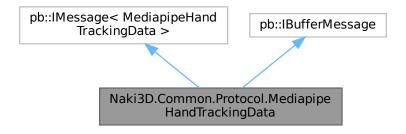
• emt-sdk/Generated/ScenePackage/Package.cs

5.51 Naki3D.Common.Protocol.MediapipeHandTrackingData Class Reference

Inheritance diagram for Naki3D.Common.Protocol.MediapipeHandTrackingData:



Collaboration diagram for Naki3D.Common.Protocol.MediapipeHandTrackingData:



Public Member Functions

- MediapipeHandTrackingData (MediapipeHandTrackingData other)
- MediapipeHandTrackingData Clone ()
- override bool Equals (object other)
- bool Equals (MediapipeHandTrackingData other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (MediapipeHandTrackingData other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int SideFieldNumber = 1

Field number for the "side" field.

const int CenterPositionFieldNumber = 2

Field number for the "center_position" field.

• const int FingerStateFieldNumber = 3

Field number for the "finger_state" field.

• const int GestureFieldNumber = 4

Field number for the "gesture" field.

Properties

- static pb::MessageParser < MediapipeHandTrackingData > Parser [get]
- static pbr::MessageDescriptor Descriptor [get]
- global::Naki3D.Common.Protocol.HandSide **Side** [get, set]
- $\bullet \ \ global:: Naki 3D. Common. Protocol. Vector 3 \ \ \textbf{CenterPosition} \quad [\texttt{get, set}]$

Geometric center of hand

- global::Naki3D.Common.Protocol.HandFingerState FingerState [get, set]
- $\bullet \ \ global:: Naki 3D. Common. Protocol. Hand Gesture Type \ \ \textbf{Gesture} \quad [\texttt{get, set}]$

Can be empty if no gesture was performed

The documentation for this class was generated from the following file:

• emt-sdk/obj/Debug/netstandard2.0/handtracking/Mediapipe.cs

5.52 emt_sdk.Generated.ScenePackage.Metadata Class Reference

Properties

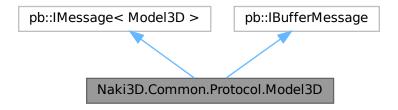
- string Author [get, set]
- string **Description** [get, set]
- string Exposition [get, set]
- List < Other > Other [get, set]
- string PackageName [get, set]

The documentation for this class was generated from the following file:

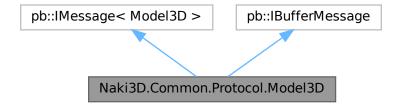
• emt-sdk/Generated/ScenePackage/Package.cs

5.53 Naki3D.Common.Protocol.Model3D Class Reference

Inheritance diagram for Naki3D.Common.Protocol.Model3D:



Collaboration diagram for Naki3D.Common.Protocol.Model3D:



Public Member Functions

- Model3D (Model3D other)
- Model3D Clone ()
- override bool **Equals** (object other)
- bool **Equals** (Model3D other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (Model3D other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int GltfFieldNumber = 1

Field number for the "gltf" field.

Properties

```
    static pb::MessageParser < Model3D > Parser [get]
    static pbr::MessageDescriptor Descriptor [get]
    pb::ByteString Gltf [get, set]
    GLTF contains models, composition, textures, everything sould be contained
```

The documentation for this class was generated from the following file:

• emt-sdk/obj/Debug/netstandard2.0/Resource.cs

5.54 emt_sdk.Generated.ScenePackage.ModelCameraTarget Class Reference

Properties

```
string ObjectName [get, set]Vector3 Offset [get, set]
```

The documentation for this class was generated from the following file:

• emt-sdk/Generated/ScenePackage/Package.cs

5.55 emt sdk.Generated.ScenePackage.ModelFlag Class Reference

Properties

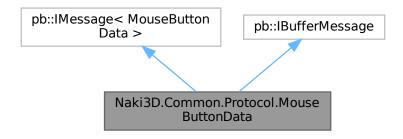
```
string ActivatedAction [get, set]
string BackgroundColor [get, set]
bool? CanSelect [get, set]
string ForegroundColor [get, set]
Vector3 Location [get, set]
string SelectedAction [get, set]
string StalkColor [get, set]
string Text [get, set]
```

The documentation for this class was generated from the following file:

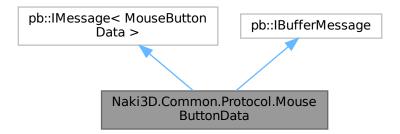
• emt-sdk/Generated/ScenePackage/Package.cs

5.56 Naki3D.Common.Protocol.MouseButtonData Class Reference

Inheritance diagram for Naki3D.Common.Protocol.MouseButtonData:



Collaboration diagram for Naki3D.Common.Protocol.MouseButtonData:



Public Member Functions

- MouseButtonData (MouseButtonData other)
- MouseButtonData Clone ()
- override bool **Equals** (object other)
- bool **Equals** (MouseButtonData other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (MouseButtonData other)
- · void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

- const int TypeFieldNumber = 1
 - Field number for the "type" field.
- const int **ButtonIdFieldNumber** = 2

Field number for the "button_id" field.

Properties

- static pb::MessageParser < MouseButtonData > Parser [get]
- static pbr::MessageDescriptor **Descriptor** [get]
- global::Naki3D.Common.Protocol.MouseActionType Type [get, set]
- int Buttonld [get, set]

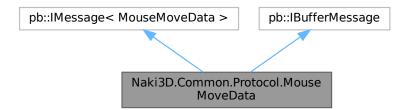
The documentation for this class was generated from the following file:

· emt-sdk/obj/Debug/netstandard2.0/Mouse.cs

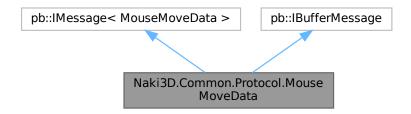
5.57 Naki3D.Common.Protocol.MouseMoveData Class Reference

Raspi -> Device

Inheritance diagram for Naki3D.Common.Protocol.MouseMoveData:



Collaboration diagram for Naki3D.Common.Protocol.MouseMoveData:



Public Member Functions

- MouseMoveData (MouseMoveData other)
- MouseMoveData Clone ()
- override bool **Equals** (object other)
- bool Equals (MouseMoveData other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (MouseMoveData other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int AbsoluteFieldNumber = 1

Field number for the "absolute" field.

• const int RelativeFieldNumber = 2

Field number for the "relative" field.

Properties

- static pb::MessageParser < MouseMoveData > Parser [get]
- static pbr::MessageDescriptor **Descriptor** [get]
- global::Naki3D.Common.Protocol.Vector2 Absolute [get, set]
- global::Naki3D.Common.Protocol.Vector2 Relative [get, set]

5.57.1 Detailed Description

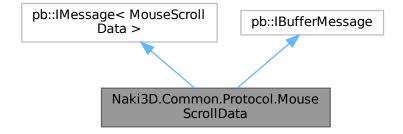
Raspi -> Device

The documentation for this class was generated from the following file:

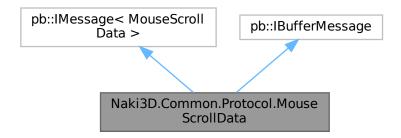
• emt-sdk/obj/Debug/netstandard2.0/Mouse.cs

5.58 Naki3D.Common.Protocol.MouseScrollData Class Reference

Inheritance diagram for Naki3D.Common.Protocol.MouseScrollData:



Collaboration diagram for Naki3D.Common.Protocol.MouseScrollData:



Public Member Functions

- MouseScrollData (MouseScrollData other)
- MouseScrollData Clone ()
- override bool **Equals** (object other)
- bool Equals (MouseScrollData other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (MouseScrollData other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int **TypeFieldNumber** = 1

Field number for the "type" field.

Properties

- static pb::MessageParser < MouseScrollData > Parser [get]
- static pbr::MessageDescriptor Descriptor [get]
- global::Naki3D.Common.Protocol.MouseScrollType Type [get, set]

The documentation for this class was generated from the following file:

· emt-sdk/obj/Debug/netstandard2.0/Mouse.cs

5.59 emt_sdk.Events.NtpSync.NtpAction Class Reference

Public Member Functions

- NtpAction (DateTime scheduledTime, Action action, string name)
- bool IsDue (DateTime time)

Properties

- DateTime ScheduledTime [get]Action Action [get]
- string Name [get]

The documentation for this class was generated from the following file:

• emt-sdk/Events/NtpSync/NtpAction.cs

5.60 emt_sdk.Events.NtpSync.NtpScheduler Class Reference

Public Member Functions

· NtpScheduler ()

Creates an NTP Scheduler with europe.pool.ntp.org as server

NtpScheduler (string host)

Creates an NTP scheduler with a custom server

- async Task Resync ()
- void ScheduleAction (NtpAction action)
- void RemoveAction (string name)
- void RunActions ()

Checks and executes any due actions. Must be called manually.

Properties

• DateTime SynchronizedTime [get]

5.60.1 Constructor & Destructor Documentation

5.60.1.1 NtpScheduler()

```
\begin{tabular}{ll} \tt emt\_sdk.Events.NtpSync.NtpScheduler.NtpScheduler ( & string $host $) & [inline] \end{tabular}
```

Creates an NTP scheduler with a custom server

Parameters

host

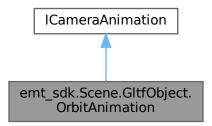
The documentation for this class was generated from the following file:

emt-sdk/Events/NtpSync/NtpScheduler.cs

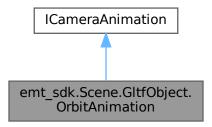
5.61 emt_sdk.Scene.GltfObject.OrbitAnimation Class Reference

Camera cylinder orbit definition

Inheritance diagram for emt_sdk.Scene.GltfObject.OrbitAnimation:



Collaboration diagram for emt_sdk.Scene.GltfObject.OrbitAnimation:



Properties

• GltfLocation Origin [get, set]

Origin point around which the camera rotates

- GltfLocation LookAt [get, set]
- float Distance [get, set]

Distance of the camera from the object, radius of rotation path

• float Height [get, set]

Height of the camera relative to the object

float RevolutionTime [get, set]

Time in seconds it takes to spin around the object once

bool AllowHandControl [get, set]

Whether the camera can be manually controlled using hand gestures (leap-like)

5.61.1 Detailed Description

Camera cylinder orbit definition

5.61.2 Property Documentation

5.61.2.1 LookAt

```
GltfLocation emt_sdk.Scene.GltfObject.OrbitAnimation.LookAt [get], [set]
```

The documentation for this class was generated from the following file:

• emt-sdk/Scene/GltfObject.cs

5.62 emt sdk.Generated.ScenePackage.Other Class Reference

Properties

```
string Key [get, set]string Value [get, set]
```

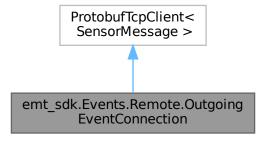
The documentation for this class was generated from the following file:

• emt-sdk/Generated/ScenePackage/Package.cs

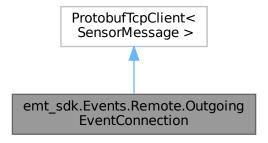
5.63 emt_sdk.Events.Remote.OutgoingEventConnection Class Reference

Connection between two emt_sdk devices - client and server event server

Inheritance diagram for emt_sdk.Events.Remote.OutgoingEventConnection:



Collaboration diagram for emt_sdk.Events.Remote.OutgoingEventConnection:



Public Member Functions

- OutgoingEventConnection (Sync sync, CommunicationSettings settings)
- void SendEvent (SensorMessage message)

Sends an event to target connected device

Protected Member Functions

- override void Ping ()
- override void HandleMessage (SensorMessage message)

Events

• SensorMessageHandler OnMessage

Additional Inherited Members

5.63.1 Detailed Description

Connection between two emt sdk devices - client and server event server

5.63.2 Member Function Documentation

5.63.2.1 Ping()

override void emt_sdk.Events.Remote.OutgoingEventConnection.Ping () [inline], [protected],
[virtual]

 $Implements\ emt_sdk. Communication. ProtobufTcpClient < SensorMessage >.$

5.63.2.2 SendEvent()

```
\label{lem:condition} \begin{tabular}{ll} void $\tt emt\_sdk.Events.Remote.OutgoingEventConnection.SendEvent ( \\ & SensorMessage $\it message$ ) [inline] \end{tabular}
```

Sends an event to target connected device

Parameters

e sent
e sent

Exceptions

ArgumentNullException	Thrown when passed event is null
-----------------------	----------------------------------

The documentation for this class was generated from the following file:

• emt-sdk/Events/Remote/OutgoingEventConnection.cs

5.64 emt_sdk.Generated.ScenePackage.Package Class Reference

Properties

- string Checksum [get, set]
- Uri Url [get, set]

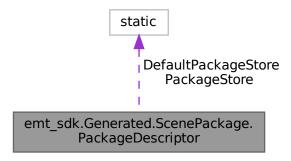
The documentation for this class was generated from the following file:

• emt-sdk/Generated/ScenePackage/Package.cs

5.65 emt_sdk.Generated.ScenePackage.PackageDescriptor Class Reference

Implementation of PackageDescriptor logic.

Collaboration diagram for emt_sdk.Generated.ScenePackage.PackageDescriptor:



Public Member Functions

• void DownloadFile ()

Downloads a file specified by package.

- bool VerifyChecksum (string checksum)
- bool IsDownloaded ()

Checks whether a package is downloaded

• void RemoveFile ()

Removes package contents from local storage

• Process Run ()

Runs program associated with package. Only used for 3D scenes.

Static Public Attributes

- static readonly string DefaultPackageStore
- · static readonly string PackageStore

Properties

```
• string Schema [get, set]
```

- List < Action > Inputs [get, set]
- Metadata Metadata [get, set]
- Package Package [get, set]
- Parameters Parameters [get, set]
- Sync Sync [get, set]
- string **Version** [get, set]
- string ArchiveFileName [get]

Gets the archive filename of this package

- string ArchivePath [get]
- string PackageDirectory [get]

Gets the location of the extracted package

• string **DataRoot** [get]

Gets the location of package resources (video, models, images, etc...)

5.65.1 Detailed Description

Implementation of PackageDescriptor logic.

5.65.2 Member Function Documentation

5.65.2.1 Run()

```
Process emt_sdk.Generated.ScenePackage.PackageDescriptor.Run ( ) [inline]
```

Runs program associated with package. Only used for 3D scenes.

Returns

Launched process

5.65.3 Property Documentation

5.65.3.1 ArchiveFileName

string emt_sdk.Generated.ScenePackage.PackageDescriptor.ArchiveFileName [get]

Gets the archive filename of this package

Returns

Package archive filename

The documentation for this class was generated from the following files:

- emt-sdk/Generated/ScenePackage/Package.cs
- emt-sdk/ScenePackage/Package.cs

5.66 emt_sdk.ScenePackage.PackageLoader Class Reference

Public Member Functions

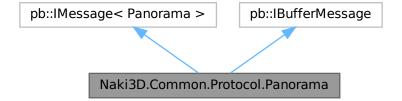
- PackageLoader (string schema=SCHEMA_PATH)
- PackageDescriptor LoadPackage (string packageDirectory, bool validate=true)
- PackageDescriptor LoadPackage (TextReader reader, bool validate=true)
- PackageDescriptor LoadPackage (Stream packageStream, bool validate=true)
- List< PackageDescriptor > EnumeratePackages (bool validate=true)

The documentation for this class was generated from the following file:

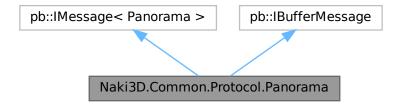
• emt-sdk/ScenePackage/PackageLoader.cs

5.67 Naki3D.Common.Protocol.Panorama Class Reference

Inheritance diagram for Naki3D.Common.Protocol.Panorama:



Collaboration diagram for Naki3D.Common.Protocol.Panorama:



Public Member Functions

- Panorama (Panorama other)
- Panorama Clone ()
- override bool **Equals** (object other)
- bool **Equals** (Panorama other)
- override int **GetHashCode** ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (Panorama other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int DataFieldNumber = 1

Field number for the "data" field.

• const int RotationSpeedFieldNumber = 3

Field number for the "rotation_speed" field.

• const int CameraVerticalAngleFieldNumber = 4

Field number for the "camera_vertical_angle" field.

Properties

- static pb::MessageParser < Panorama > Parser [get]
- static pbr::MessageDescriptor **Descriptor** [get]
- pb::ByteString Data [get, set]

Maybe separate panoramas for left/right eye in future

double RotationSpeed [get, set]

field 2 placeholder for left/right split

• double CameraVerticalAngle [get, set]

The documentation for this class was generated from the following file:

emt-sdk/obj/Debug/netstandard2.0/Resource.cs

5.68 emt sdk.Generated.ScenePackage.Parameters Class Reference

Properties

string DisplayType [get, set]Settings Settings [get, set]

The documentation for this class was generated from the following file:

• emt-sdk/Generated/ScenePackage/Package.cs

5.69 emt_sdk.Settings.PeppersGhostSetting Class Reference

Settings for a Pepper's ghost effect device

Properties

ColorSetting Color = new ColorSetting() [get, set]
 Color transformation settings

5.69.1 Detailed Description

Settings for a Pepper's ghost effect device

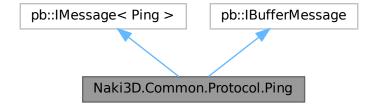
The documentation for this class was generated from the following file:

• emt-sdk/Settings/PeppersGhostSetting.cs

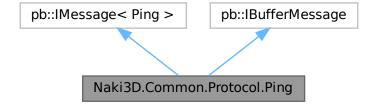
5.70 Naki3D.Common.Protocol.Ping Class Reference

Basically an empty ping message, just to maintain connection.

Inheritance diagram for Naki3D.Common.Protocol.Ping:



Collaboration diagram for Naki3D.Common.Protocol.Ping:



Public Member Functions

- Ping (Ping other)
- Ping Clone ()
- override bool **Equals** (object other)
- bool **Equals** (Ping other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void **MergeFrom** (Ping other)
- void MergeFrom (pb::CodedInputStream input)

Properties

static pb::MessageParser< Ping > Parser [get]
 static pbr::MessageDescriptor Descriptor [get]

5.70.1 Detailed Description

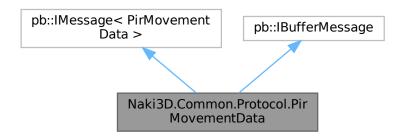
Basically an empty ping message, just to maintain connection.

The documentation for this class was generated from the following file:

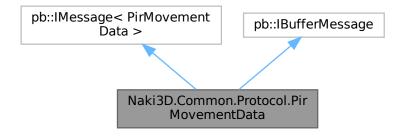
• emt-sdk/obj/Debug/netstandard2.0/Connection.cs

5.71 Naki3D.Common.Protocol.PirMovementData Class Reference

Inheritance diagram for Naki3D.Common.Protocol.PirMovementData:



 $Collaboration\ diagram\ for\ Naki 3D. Common. Protocol. Pir Movement Data:$



Public Member Functions

- PirMovementData (PirMovementData other)
- PirMovementData Clone ()
- override bool **Equals** (object other)
- bool Equals (PirMovementData other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (PirMovementData other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int EventFieldNumber = 1

Field number for the "event" field.

Properties

- static pb::MessageParser < PirMovementData > Parser [get]
- static pbr::MessageDescriptor **Descriptor** [get]
- global::Naki3D.Common.Protocol.PirMovementEvent Event [get, set]

The documentation for this class was generated from the following file:

• emt-sdk/obj/Debug/netstandard2.0/Sensor.cs

5.72 emt_sdk.Communication.ProjectorControl Class Reference

Public Member Functions

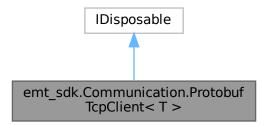
- ProjectorControl (SensorManager sensorManager)
- · void PowerOn ()
- · void PowerOff ()

The documentation for this class was generated from the following file:

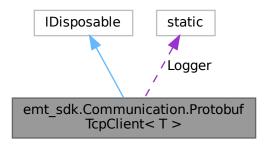
• emt-sdk/Communication/ProjectorControl.cs

5.73 emt_sdk.Communication.ProtobufTcpClient< T > Class Template Reference

Inheritance diagram for emt_sdk.Communication.ProtobufTcpClient< T >:



Collaboration diagram for emt_sdk.Communication.ProtobufTcpClient< T >:



Public Member Functions

- ProtobufTcpClient (string hostname, int port)
- void Connect ()

Connects to specified remote server and listens for messages. This call will block the current thread.

- void Disconnect ()
- · void Dispose ()

Protected Member Functions

- void Reconnect ()
- void ReadMessages ()
- void **SendMessage** (T message)
- abstract void Ping ()
- abstract void HandleMessage (T message)

Protected Attributes

- TcpClient _client
- · NetworkStream _stream
- readonly Timer <u>timeoutTimer</u> = new Timer(TIMEOUT INTERVAL)
- readonly Timer _reconnectTimer = new Timer(RECONNECT_INTERVAL)
- CancellationTokenSource _ tokenSource = new CancellationTokenSource()
- MessageParser< T > _parser = new MessageParser<T>(() => new T())
- · string _hostname
- int _port

Static Protected Attributes

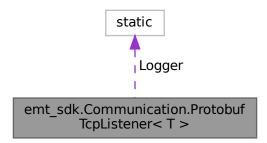
- static readonly Logger Logger = LogManager.GetCurrentClassLogger()
- const double **TIMEOUT_INTERVAL** = 5_000
- const double **RECONNECT_INTERVAL** = 5_000

The documentation for this class was generated from the following file:

• emt-sdk/Communication/ProtobufTcpClient.cs

5.74 emt_sdk.Communication.ProtobufTcpListener< T > Class Template Reference

Collaboration diagram for emt_sdk.Communication.ProtobufTcpListener< T >:



Public Member Functions

- · ProtobufTcpListener (IPAddress listenAddress, int port)
- · void Start ()

Listens for new connections and receives messages from each created connection. This call will block the current thread.

· void Stop ()

Protected Member Functions

- void BroadcastMessage (T message)
- virtual void **HandleConnection** ((TcpClient tcpClient, NetworkStream stream) clientInfo, CancellationToken cancellationToken)
- abstract void HandleMessage (T message, NetworkStream stream)

Protected Attributes

- CancellationTokenSource _ tokenSource = new CancellationTokenSource()
- MessageParser< T > _parser = new MessageParser<T>(() => new T())
- readonly TcpListener _listener
- readonly List<(TcpClient tcpClient, NetworkStream stream)> _clients = new List<(TcpClient, Network←
 Stream)>()

Static Protected Attributes

static readonly Logger Logger = LogManager.GetCurrentClassLogger()

Properties

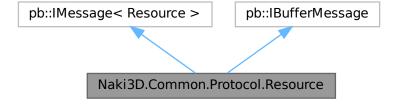
- int Timeout [get, set]
- bool **IsListening** = false [get]
- CancellationToken CancellationToken [get]

The documentation for this class was generated from the following file:

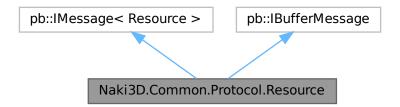
• emt-sdk/Communication/ProtobufTcpListener.cs

5.75 Naki3D.Common.Protocol.Resource Class Reference

Inheritance diagram for Naki3D.Common.Protocol.Resource:



Collaboration diagram for Naki3D.Common.Protocol.Resource:



Public Types

• enum DataOneofCase

Enum of possible cases for the "data" oneof.

Public Member Functions

- Resource (Resource other)
- Resource Clone ()
- · void ClearData ()
- · override bool Equals (object other)
- bool Equals (Resource other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (Resource other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

const int SceneFieldNumber = 1

Field number for the "scene" field.

• const int ModelFieldNumber = 2

Field number for the "model" field.

• const int ImageFieldNumber = 3

Field number for the "image" field.

• const int VideoFieldNumber = 4

Field number for the "video" field.

const int PanoramaFieldNumber = 7

Field number for the "panorama" field.

• const int InputMappingFieldNumber = 5

Field number for the "input_mapping" field.

const int AdditionalScriptsFieldNumber = 6

Field number for the "additional_scripts" field.

Properties

- static pb::MessageParser < Resource > Parser [get]
- static pbr::MessageDescriptor Descriptor [get]
- global::Naki3D.Common.Protocol.Scene3D Scene [get, set]
- global::Naki3D.Common.Protocol.Model3D **Model** [get, set]
- global::Naki3D.Common.Protocol.Image Image [get, set]
- global::Naki3D.Common.Protocol.Video Video [get, set]
- global::Naki3D.Common.Protocol.Panorama Panorama [get, set]
- string InputMapping [get, set]

Probably JSON, we've agreed there's no point in binding it on protobuf layer

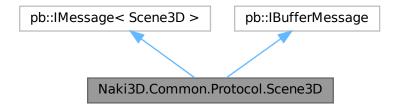
- $\bullet \hspace{0.1in} pbc:: Repeated Field < global:: Naki 3D. Common. Protocol. Event Script > \textbf{Additional Scripts} \hspace{0.1in} [\texttt{get}]$
- DataOneofCase DataCase [get]

The documentation for this class was generated from the following file:

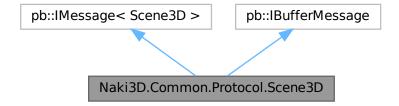
• emt-sdk/obj/Debug/netstandard2.0/Resource.cs

5.76 Naki3D.Common.Protocol.Scene3D Class Reference

Inheritance diagram for Naki3D.Common.Protocol.Scene3D:



Collaboration diagram for Naki3D.Common.Protocol.Scene3D:



Public Member Functions

- Scene3D (Scene3D other)
- Scene3D Clone ()
- override bool **Equals** (object other)
- bool Equals (Scene3D other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (Scene3D other)
- · void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int EnvironmentFieldNumber = 1

Field number for the "environment" field.

• const int DatapackIdFieldNumber = 2

Field number for the "datapack_id" field.

Properties

- static pb::MessageParser < Scene3D > Parser [get]
- static pbr::MessageDescriptor **Descriptor** [get]
- global::Naki3D.Common.Protocol.Environment Environment [get, set]
- string DatapackId [get, set]

 alternatively bytes datapack_payload = 2;

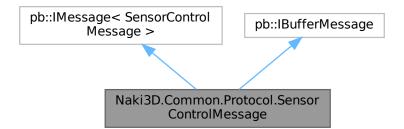
The documentation for this class was generated from the following file:

• emt-sdk/obj/Debug/netstandard2.0/Resource.cs

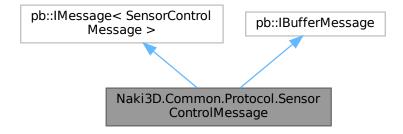
5.77 Naki3D.Common.Protocol.SensorControlMessage Class Reference

Device -> RasPi Message wrapper, same as above.

Inheritance diagram for Naki3D.Common.Protocol.SensorControlMessage:



Collaboration diagram for Naki3D.Common.Protocol.SensorControlMessage:



Public Types

· enum MessageOneofCase

Enum of possible cases for the "message" oneof.

Public Member Functions

- SensorControlMessage (SensorControlMessage other)
- SensorControlMessage Clone ()
- void ClearMessage ()
- override bool **Equals** (object other)
- · bool Equals (SensorControlMessage other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (SensorControlMessage other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

const int HostnameFieldNumber = 1

Field number for the "hostname" field.

• const int SensorListFieldNumber = 16

Field number for the "sensor_list" field.

• const int CecMessageFieldNumber = 17

Field number for the "cec_message" field.

Properties

- static pb::MessageParser < SensorControlMessage > Parser [get]
- static pbr::MessageDescriptor Descriptor [get]
- string **Hostname** [get, set]
- global::Naki3D.Common.Protocol.SensorListRequest SensorList [get, set]
- global::Naki3D.Common.Protocol.CECMessage CecMessage [get, set]
- MessageOneofCase MessageCase [get]

5.77.1 Detailed Description

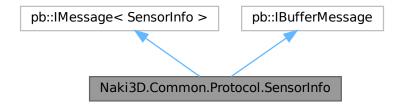
Device -> RasPi Message wrapper, same as above.

The documentation for this class was generated from the following file:

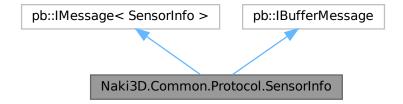
• emt-sdk/obj/Debug/netstandard2.0/Wrappers.cs

5.78 Naki3D.Common.Protocol.SensorInfo Class Reference

Inheritance diagram for Naki3D.Common.Protocol.SensorInfo:



Collaboration diagram for Naki3D.Common.Protocol.SensorInfo:



Public Member Functions

- SensorInfo (SensorInfo other)
- SensorInfo Clone ()
- override bool **Equals** (object other)
- bool Equals (SensorInfo other)
- override int GetHashCode ()
- override string **ToString** ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (SensorInfo other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int SensorNameFieldNumber = 1

Field number for the "sensor name" field.

• const int TypeFieldNumber = 2

Field number for the "type" field.

Properties

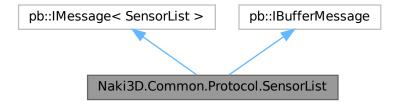
- static pb::MessageParser < SensorInfo > Parser [get]
- static pbr::MessageDescriptor **Descriptor** [get]
- string SensorName [get, set]
- global::Naki3D.Common.Protocol.SensorType Type [get, set]

The documentation for this class was generated from the following file:

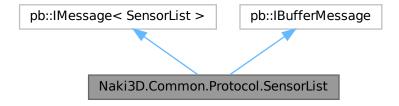
• emt-sdk/obj/Debug/netstandard2.0/Sensor.cs

5.79 Naki3D.Common.Protocol.SensorList Class Reference

Inheritance diagram for Naki3D.Common.Protocol.SensorList:



Collaboration diagram for Naki3D.Common.Protocol.SensorList:



Public Member Functions

- SensorList (SensorList other)
- SensorList Clone ()
- override bool **Equals** (object other)
- bool Equals (SensorList other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (SensorList other)
- · void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int SensorsFieldNumber = 1

Field number for the "sensors" field.

Properties

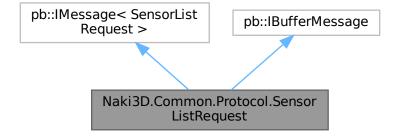
- static pb::MessageParser < SensorList > Parser [get]
- static pbr::MessageDescriptor Descriptor [get]
- $\bullet \ \ pbc:: Repeated Field < global:: Naki 3D. Common. Protocol. Sensor Info > \textbf{Sensors} \quad [\texttt{get}]$

The documentation for this class was generated from the following file:

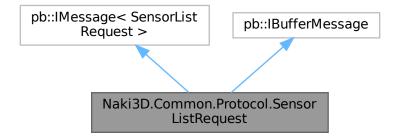
• emt-sdk/obj/Debug/netstandard2.0/Sensor.cs

5.80 Naki3D.Common.Protocol.SensorListRequest Class Reference

Inheritance diagram for Naki3D.Common.Protocol.SensorListRequest:



Collaboration diagram for Naki3D.Common.Protocol.SensorListRequest:



Public Member Functions

- SensorListRequest (SensorListRequest other)
- SensorListRequest Clone ()
- override bool Equals (object other)
- bool **Equals** (SensorListRequest other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (SensorListRequest other)
- void MergeFrom (pb::CodedInputStream input)

Properties

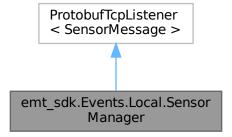
- static pb::MessageParser < SensorListRequest > Parser [get]
- static pbr::MessageDescriptor **Descriptor** [get]

The documentation for this class was generated from the following file:

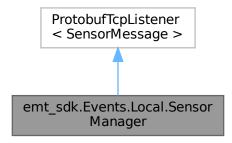
• emt-sdk/obj/Debug/netstandard2.0/Sensor.cs

5.81 emt_sdk.Events.Local.SensorManager Class Reference

Inheritance diagram for emt_sdk.Events.Local.SensorManager:



Collaboration diagram for emt_sdk.Events.Local.SensorManager:



Public Member Functions

- SensorManager (CommunicationSettings settings)
- void BroadcastControlMessage (SensorControlMessage message)

Protected Member Functions

- override void HandleConnection ((TcpClient tcpClient, NetworkStream stream) clientInfo, CancellationToken cancellationToken)
- override void **HandleMessage** (SensorMessage message, NetworkStream stream)

Properties

• ProjectorControl ProjectorControl [get]

Events

• SensorMessageHandler OnMessage

Additional Inherited Members

5.81.1 Member Function Documentation

5.81.1.1 HandleConnection()

Reimplemented from emt_sdk.Communication.ProtobufTcpListener< SensorMessage >.

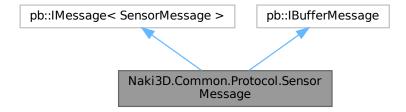
The documentation for this class was generated from the following file:

• emt-sdk/Events/Local/SensorManager.cs

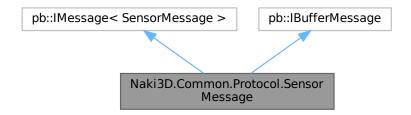
5.82 Naki3D.Common.Protocol.SensorMessage Class Reference

RasPi -> Device Message wrapper, same as above.

Inheritance diagram for Naki3D.Common.Protocol.SensorMessage:



Collaboration diagram for Naki3D.Common.Protocol.SensorMessage:



Public Types

• enum DataOneofCase

Enum of possible cases for the "data" oneof.

Public Member Functions

- SensorMessage (SensorMessage other)
- SensorMessage Clone ()
- · void ClearData ()
- override bool **Equals** (object other)
- bool Equals (SensorMessage other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (SensorMessage other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

const int SensorIdFieldNumber = 1

Field number for the "sensor id" field.

• const int TimestampFieldNumber = 2

Field number for the "timestamp" field.

• const int HandTrackingFieldNumber = 15

Field number for the "handTracking" field.

• const int GestureFieldNumber = 16

Field number for the "gesture" field.

• const int HandMovementFieldNumber = 17

Field number for the "hand_movement" field.

• const int **BestUserChangedFieldNumber** = 18

Field number for the "best_user_changed" field.

• const int KeyboardUpdateFieldNumber = 19

Field number for the "keyboard_update" field.

• const int MouseMoveFieldNumber = 20

Field number for the "mouse_move" field.

• const int MouseButtonFieldNumber = 21

Field number for the "mouse_button" field.

• const int MouseScrollFieldNumber = 22

Field number for the "mouse_scroll" field.

• const int **UltrasonicDistanceFieldNumber** = 23

Field number for the "ultrasonic_distance" field.

• const int LightLevelFieldNumber = 24

Field number for the "light_level" field.

• const int **EventFieldNumber** = 25

Field number for the "event" field.

• const int PirMovementFieldNumber = 26

Field number for the "pir_movement" field.

Properties

- static pb::MessageParser < SensorMessage > Parser [get]
- static pbr::MessageDescriptor Descriptor [get]
- string **SensorId** [get, set]
- ulong Timestamp [get, set]

Microseconds since startup (Camera timing is in microseconds, may as well keep it)

- global::Naki3D.Common.Protocol.MediapipeHandTrackingData HandTracking [get, set]
- global::Naki3D.Common.Protocol.GestureData Gesture [get, set]
- global::Naki3D.Common.Protocol.HandMovementData HandMovement [get, set]
- global::Naki3D.Common.Protocol.BestUserChangedData BestUserChanged [get, set]
- global::Naki3D.Common.Protocol.KeyboardUpdateData KeyboardUpdate [get, set]
- global::Naki3D.Common.Protocol.MouseMoveData MouseMove [get, set]
- global::Naki3D.Common.Protocol.MouseButtonData MouseButton [get, set]
- global::Naki3D.Common.Protocol.MouseScrollData MouseScroll [get, set]
- global::Naki3D.Common.Protocol.UltrasonicDistanceData UltrasonicDistance [get, set]
- global::Naki3D.Common.Protocol.LightLevelData LightLevel [get, set]
- global::Naki3D.Common.Protocol.EventData Event [get, set]
- global::Naki3D.Common.Protocol.PirMovementData **PirMovement** [get, set]
- DataOneofCase DataCase [get]

5.82.1 Detailed Description

RasPi -> Device Message wrapper, same as above.

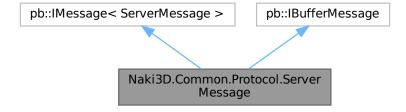
The documentation for this class was generated from the following file:

• emt-sdk/obj/Debug/netstandard2.0/Wrappers.cs

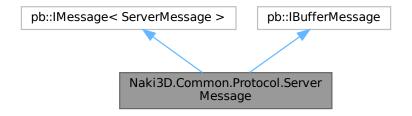
5.83 Naki3D.Common.Protocol.ServerMessage Class Reference

Server -> Device Message wrapper to allow identifying which message was sent using protobuf.

Inheritance diagram for Naki3D.Common.Protocol.ServerMessage:



Collaboration diagram for Naki3D.Common.Protocol.ServerMessage:



Public Types

· enum MessageOneofCase

Enum of possible cases for the "message" oneof.

Public Member Functions

- ServerMessage (ServerMessage other)
- ServerMessage Clone ()
- void ClearMessage ()
- override bool Equals (object other)
- · bool Equals (ServerMessage other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (ServerMessage other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int ConnectionIdFieldNumber = 1

Field number for the "connection_id" field.

• const int EncryptionInfoFieldNumber = 16

Field number for the "encryption_info" field.

• const int LoadPackageFieldNumber = 17

Field number for the "load_package" field.

• const int ClearPackageFieldNumber = 18

Field number for the "clear_package" field.

Properties

```
    static pb::MessageParser < ServerMessage > Parser [get]
    static pbr::MessageDescriptor Descriptor [get]
    string ConnectionId [get, set]
    global::Naki3D.Common.Protocol.EncryptionInfo EncryptionInfo [get, set]
        connection.proto
    global::Naki3D.Common.Protocol.LoadPackage LoadPackage [get, set]
        commands.proto
    global::Naki3D.Common.Protocol.ClearPackage ClearPackage [get, set]
    MessageOneofCase MessageCase [get]
```

5.83.1 Detailed Description

Server -> Device Message wrapper to allow identifying which message was sent using protobuf.

The documentation for this class was generated from the following file:

· emt-sdk/obj/Debug/netstandard2.0/Wrappers.cs

5.84 emt_sdk.Generated.ScenePackage.Settings Class Reference

Properties

```
    string BackgroundColor [get, set]

• Layout Layout [get, set]
• LayoutType? LayoutType [get, set]

    Vector2 Padding [get, set]

• double? ScrollDelay [get, set]

    double? SlideAnimationLength [get, set]

    CameraAnimation CameraAnimation [get, set]

• string FileName [get, set]

    FlagInteraction? FlagInteraction [get, set]

• List< ModelFlag > Flags [get, set]
• string Skybox [get, set]
string SkyboxTint [get, set]

    AspectRatio? AspectRatio [get, set]

    bool? AutoStart [get, set]

bool? Loop [get, set]

    List < VideoEvent > VideoEvents [get, set]

    double? RotationSpeed [get, set]

• double? CameraVerticalAngle [get, set]
```

The documentation for this class was generated from the following file:

• emt-sdk/Generated/ScenePackage/Package.cs

5.85 emt sdk.Settings.SkewSetting Class Reference

Describes screen keystone transformation quad Coordinate space starts at -1, -1 for the bottom left corner And ends at 1, 1 for the rop right corner

Public Member Functions

• SkewSetting AlignSides ()

Vertically aligns (sets the X coordinate to the same value) pairs of TopRight/BottomRight and TopLeft/BottomLeft. Always uses the top coordinates as source data.

Properties

```
• Vector2 TopLeft [get, set]
```

- Vector2 TopRight [get, set]
- Vector2 BottomLeft [get, set]
- Vector2 BottomRight [get, set]

5.85.1 Detailed Description

Describes screen keystone transformation quad Coordinate space starts at -1, -1 for the bottom left corner And ends at 1, 1 for the rop right corner

5.85.2 Member Function Documentation

5.85.2.1 AlignSides()

```
SkewSetting emt_sdk.Settings.SkewSetting.AlignSides ( ) [inline]
```

Vertically aligns (sets the X coordinate to the same value) pairs of TopRight/BottomRight and TopLeft/BottomLeft. Always uses the top coordinates as source data.

Returns

5.85.3 Property Documentation

5.85.3.1 BottomLeft

```
Vector2 emt_sdk.Settings.SkewSetting.BottomLeft [get], [set]
```

Initial value:

5.85.3.2 BottomRight

```
Vector2 emt_sdk.Settings.SkewSetting.BottomRight [get], [set]
```

Initial value:

5.85.3.3 TopLeft

```
Vector2 emt_sdk.Settings.SkewSetting.TopLeft [get], [set]
```

Initial value:

5.85.3.4 TopRight

```
Vector2 emt_sdk.Settings.SkewSetting.TopRight [get], [set]
```

Initial value:

The documentation for this class was generated from the following file:

• emt-sdk/Settings/SkewSetting.cs

5.86 emt sdk.Generated.ScenePackage.Sync Class Reference

Properties

- CanvasDimensions CanvasDimensions [get, set]
- List< Element > Elements [get, set]
- long **SelfIndex** [get, set]

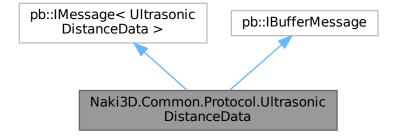
The documentation for this class was generated from the following file:

• emt-sdk/Generated/ScenePackage/Package.cs

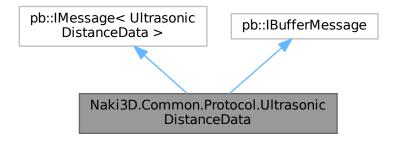
5.87 Naki3D.Common.Protocol.UltrasonicDistanceData Class Reference

Raspi -> Device

Inheritance diagram for Naki3D.Common.Protocol.UltrasonicDistanceData:



Collaboration diagram for Naki3D.Common.Protocol.UltrasonicDistanceData:



Public Member Functions

- UltrasonicDistanceData (UltrasonicDistanceData other)
- UltrasonicDistanceData Clone ()
- override bool Equals (object other)
- bool Equals (UltrasonicDistanceData other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (UltrasonicDistanceData other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int DistanceFieldNumber = 1

Field number for the "distance" field.

Properties

- static pb::MessageParser< UltrasonicDistanceData > Parser [get]
- static pbr::MessageDescriptor Descriptor [get]
- float Distance [get, set]

5.87.1 Detailed Description

Raspi -> Device

The documentation for this class was generated from the following file:

• emt-sdk/obj/Debug/netstandard2.0/Sensor.cs

5.88 emt_sdk.Generated.ScenePackage.Vector2 Class Reference

Properties

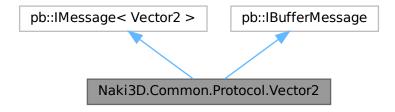
```
double? X [get, set]double? Y [get, set]
```

The documentation for this class was generated from the following file:

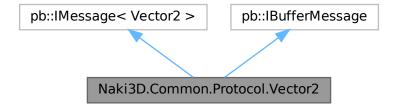
• emt-sdk/Generated/ScenePackage/Package.cs

5.89 Naki3D.Common.Protocol.Vector2 Class Reference

Inheritance diagram for Naki3D.Common.Protocol.Vector2:



Collaboration diagram for Naki3D.Common.Protocol.Vector2:



Public Member Functions

- Vector2 (Vector2 other)
- Vector2 Clone ()
- override bool **Equals** (object other)
- bool **Equals** (Vector2 other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (Vector2 other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int XFieldNumber = 1

Field number for the "x" field.

• const int YFieldNumber = 2

Field number for the "y" field.

Properties

```
    static pb::MessageParser < Vector2 > Parser [get]
    static pbr::MessageDescriptor Descriptor [get]
    float X [get, set]
    float Y [get, set]
```

The documentation for this class was generated from the following file:

• emt-sdk/obj/Debug/netstandard2.0/Types.cs

5.90 emt_sdk.Generated.ScenePackage.Vector3 Class Reference

Properties

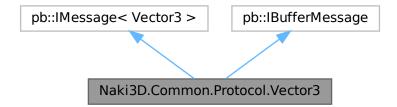
```
double? X [get, set]double? Y [get, set]double? Z [get, set]
```

The documentation for this class was generated from the following file:

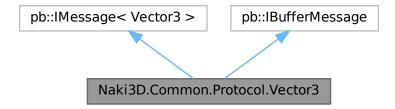
• emt-sdk/Generated/ScenePackage/Package.cs

5.91 Naki3D.Common.Protocol.Vector3 Class Reference

Inheritance diagram for Naki3D.Common.Protocol.Vector3:



Collaboration diagram for Naki3D.Common.Protocol.Vector3:



Public Member Functions

- Vector3 (Vector3 other)
- Vector3 Clone ()
- override bool Equals (object other)
- bool **Equals** (Vector3 other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (Vector3 other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

const int XFieldNumber = 1

Field number for the "x" field.

• const int YFieldNumber = 2

Field number for the "y" field.

• const int **ZFieldNumber** = 3

Field number for the "z" field.

Properties

- static pb::MessageParser < Vector3 > Parser [get]
- static pbr::MessageDescriptor Descriptor [get]
- float X [get, set]
- float Y [get, set]
- float Z [get, set]

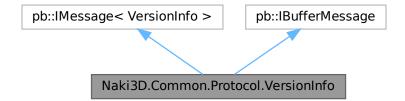
The documentation for this class was generated from the following file:

• emt-sdk/obj/Debug/netstandard2.0/Types.cs

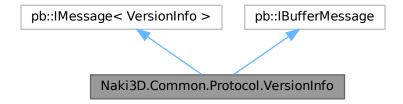
5.92 Naki3D.Common.Protocol.VersionInfo Class Reference

Same for both peers, version for compatibility checks. Probably SEMVER?

Inheritance diagram for Naki3D.Common.Protocol.VersionInfo:



Collaboration diagram for Naki3D.Common.Protocol.VersionInfo:



Public Member Functions

- VersionInfo (VersionInfo other)
- VersionInfo Clone ()
- override bool **Equals** (object other)
- bool **Equals** (VersionInfo other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (VersionInfo other)
- · void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int MajorFieldNumber = 1

Field number for the "major" field.

• const int MinorFieldNumber = 2

Field number for the "minor" field.

• const int PatchFieldNumber = 3

Field number for the "patch" field.

• const int BuildFieldNumber = 4

Field number for the "build" field.

Properties

- static pb::MessageParser < VersionInfo > Parser [get]
- static pbr::MessageDescriptor **Descriptor** [get]
- uint Major [get, set]
- uint Minor [get, set]
- uint Patch [get, set]
- string Build [get, set]

5.92.1 Detailed Description

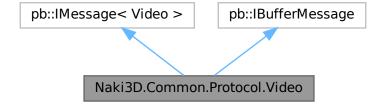
Same for both peers, version for compatibility checks. Probably SEMVER?

The documentation for this class was generated from the following file:

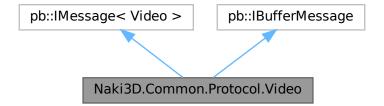
• emt-sdk/obj/Debug/netstandard2.0/Connection.cs

5.93 Naki3D.Common.Protocol.Video Class Reference

Inheritance diagram for Naki3D.Common.Protocol.Video:



Collaboration diagram for Naki3D.Common.Protocol.Video:



Classes

· class Types

Container for nested types declared in the Video message type.

Public Member Functions

- Video (Video other)
- · Video Clone ()
- · override bool Equals (object other)
- bool **Equals** (Video other)
- override int GetHashCode ()
- override string ToString ()
- void WriteTo (pb::CodedOutputStream output)
- int CalculateSize ()
- void MergeFrom (Video other)
- void MergeFrom (pb::CodedInputStream input)

Static Public Attributes

• const int DataFieldNumber = 1

Field number for the "data" field.

• const int VideoCodecFieldNumber = 2

Field number for the "video_codec" field.

• const int AudioCodecFieldNumber = 3

Field number for the "audio codec" field.

Properties

```
    static pb::MessageParser < Video > Parser [get]
```

- static pbr::MessageDescriptor Descriptor [get]
- pb::ByteString Data [get, set]

Separate audio/video streams maybe?

- global::Naki3D.Common.Protocol.Video.Types.VideoCodec VideoCodec [get, set]
- global::Naki3D.Common.Protocol.Video.Types.AudioCodec AudioCodec [get, set]

The documentation for this class was generated from the following file:

• emt-sdk/obj/Debug/netstandard2.0/Resource.cs

5.94 emt_sdk.Generated.ScenePackage.VideoEvent Class Reference

Properties

```
• string EventName [get, set]
```

• double? Timestamp [get, set]

The documentation for this class was generated from the following file:

• emt-sdk/Generated/ScenePackage/Package.cs

5.95 emt sdk.Scene.VideoScene.VideoEvent Class Reference

Properties

float Timestamp [get, set]
 Point in time when the event should be raised in seconds

 string EventName [get, set]

The documentation for this class was generated from the following file:

· emt-sdk/Scene/VideoScene.cs

5.96 emt_sdk.Scene.VideoScene Class Reference

Definition of video scene specific data

Classes

class VideoEvent

Public Types

enum VideoAspectRatioEnum

Defines how the video should be scaled

Properties

```
• string FileName [get, set]
```

Gets or sets the filename of the video file to be played

bool Loop [get, set]

Whether the video should automatically loop

bool AutoStart [get, set]

Whether the video should start playing as soon as the scene loads

• VideoAspectRatioEnum AspectRatio [get, set]

Determines how the video content will be rescaled to fit the screen

• string BackgroundColor [get, set]

Background color in hex, formatted as #RRGGBB (e.g. #A1FF12)

VideoEvent[] VideoEvents [get, set]

5.96.1 Detailed Description

Definition of video scene specific data

The documentation for this class was generated from the following file:

• emt-sdk/Scene/VideoScene.cs

5.97 emt_sdk.ScenePackage.Viewport Class Reference

Public Member Functions

• Viewport (int width, int height, int x, int y)

Properties

```
int X [get, set]
int Y [get, set]
int Width [get, set]
int Height [get, set]
```

The documentation for this class was generated from the following file:

• emt-sdk/ScenePackage/Viewport.cs

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