



Deepath2 Reference Guide

Nettuno Senses Video Server – version 0.9.9 (15:46:49 Oct 23 2006)

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Detail alarm

Checks video level of details and activate alarm when the level of details falls. Useful to detect when somebody obstruct the camera or in case of darkness.

Zones attributes

Name	Type	Description
Detail loss	Percent	Percentage of detail that the scene has to loss to active the alarm.
Detail threshold	Unsigned integer	Under this absolute level of detail the alarm is activated.
Time period	Time in milliseconds	Maximum period of time in witch the detail loss percentage must be reached.

Flow alarm

Counts the number of objects that moves throw a given zone in a given direction.

Zones attributes

Name	Type	Description
Flow threshold	Unsigned integer	Number of objects to trig the alarm in a given time (Time period)
Source (zone)	Zone	Zone from which the object will come in order to trig the alarm
Time Period (s)	Time in seconds	Time window in which deepath2 counts objects

Global motion alarm

Deepath2 detects if all the scene is moving in the same direction and is capable to understand if the camera is moving, and in witch direction has been moved.

Motion alarm

Deepath2 detects moving objects, classifying for direction, size and speed. If it detects a moving object width some characteristics it activates the motion alarm. Motion alarm may also be used from DVMS servers to determinate if the scene should be recorded.

Alarm attributes

Name	Type	Description
View Mode	Type index (0, 1, 2)	Set how to evidence moving objects 0: outline drawings 1: surrounding ellipses 2: surrounding boxes

Zones attributes

Name	Type	Description
Enhanced sensitivity	True or false	If true, the Deepath2 is more sensible to movements.
Max size	Width and height	Maximum width and height of the objects.
Min size	Width and height	Minimum width and height of the objects.
Sensitivity	Percent	Sensitivity of the motion detection algorithm.
Trigger threshold	Time in milliseconds	If Deepath2 sees a moving object for at last this time period actives the motion alarm.

Panic alarm

Detects panic situations where many objects are moving in many directions at the same time.

Zones attributes

Name	Type	Description
And conditions	True or false	If true then both the alarm conditions have to be true at the same time for active the alarm. Otherwise is sufficient one of two.
Distance bore	Lengths units calibration	Allow to calibrate the lengths. Is needed to

Name	Type	Description
		calculate real world speed from seen images. To insert a correct calibration click on the tool button available below the attribute name and draw an arrow on the screen. Then insert in the dialogue box that appears how which is the length of the arrow in the real world.
Motion threshold	Percentage	The first condition is verified if at least "motion threshold" percentage of zone is moving.
Speed threshold	Speed in km/h or mph	The second condition is verified if at least "motion threshold" percentage of zone is moving at least at this average speed threshold.
Time period	Time in seconds	Both the conditions are considered verified only after this time period, before active the alarm.

Permanency alarm

Alarm useful to detect situation in witch one object is left in the scene for at least a given log time. Examples of detectable situations:

- one terrorist leaves a camouflaged bomb in a public area;
- someone puts an obstacle at an cars exit;
- etc.

Alarm attributes

Name	Type	Description
Height tolerance	Percentage	Percentage of tolerance on the height of the object
Min confidence	Percentage	When other objects pass in front of the object and partly occlude it, the confidence is lower.
Permanency time	Time period	Time period after witch the alarm can be activated.
Tracking link	True or false	If true raises an alarm only if "time period" seconds before a tracking path was found in the object area.
Width tolerance	Percentage	Percentage of tolerance on the width of the object

Zones attributes

Name	Type	Description
Maximum size	Width and height	Maximum object size
Minimum size	Width and height	Minimum object size

Queue alarm

Deepath2 detects temporary steady objects in the zone (for instance car queues).

Zones attributes

Name	Type	Description
Area threshold	Percentage	Minimum zone area covered by steady objects.
Trigger threshold	Time in seconds	Minimum time period before active the alarm.

Setup

Configure general parameters useful to tune senses to the behaviour of specific cameras.

Setup attributes

Name	Type	Description
Threshold	Integer (0-255)	Diversity from background to unveile an object (-1 : automatic)
Chroma Denoise	Integer (0-255)	How much Deepath2 have to ignore chroma noises
Chroma Sensitivity	Integer (0-255)	Sensitivity index of Deepath2 on chroma
Luma Denoise	Integer (0-255)	How much Deepath2 have to ignore luminance noises
Luma Sensitivity	Integer (0-255)	Sensitivity index of Deepath2 on luminance
Min Area	Area	Minimum object area

Speed alarm

Deepath2 can measure the speed of moving objects, and can send alarms if objects exceed a speed limit.

Zones attributes

Name	Type	Description
Distance bore1, Distance bore2, Distance bore3	Length units calibration	Allow to calibrate the lengths. Is needed to calculate real world speed from seen images. To insert a correct calibration click on the tool button available below the attribute name and draw an arrow on the screen. Then insert in the dialogue box that appears how which is the length of the arrow in the real world. Deepath2 use the calibration closer to every moving object. 3 calibration is available for every zone.
Speed limit	Speed in km/h or mph	If an object exceeds this limit, then the alarm is activated.
Trigger threshold	Time in milliseconds	The alarm is activated only if the speed limit is exceeded for at least this time.

Tracking alarm

Deepath2 tracks objects movements and records in a internal real time database. It can use this database for better understand what is happening, or just for detect if an object has moved from a source zone to a destination one. In that case it activates the tracking alarm.

Alarm attributes

Name	Type	Description
Max Idle Time (ms)	Time in milliseconds	
Max Objects	Integer	Maximum number of objects which can be traced
Min Distance	Integer	A path must run for "min distance" length before it is considered as valid
Min Life (ms)	Time in milliseconds	A path must run for "min life" time before it is considered as valid
Show Objects	True or False	Show recognized objects
View Distance	Integer	Maximum length of trail to be shown
View Time (ms)	Time in milliseconds	Maximum time length of the path to be drawn

Zones attributes

Name	Type	Description
Maximum time	Time in milliseconds	Maximum time required for go from source zone to this zone.
Minimum time	Time in milliseconds	Minimum time required for go from source zone to this zone.
Source	Zone	If the zone from witch the object came

Name	Type	Description
		from is the selected area, Deepath2 activates the alarm.
Trigger	True or false	Every trace in the area activates the alarm

Wrong way alarm

Deepath2 activates this alarm if an object is moving in zone in the wrong direction.

Zone attributes

Name	Type	Description
Direction	Direction vector	Set the correct direction that all objects must keep. Otherwise they activates the alarm.
Tolerance	Angle in degrees	Direction Tolerance to avoid false alarms.
Trigger threshold	Time in milliseconds	Minimum time period the wrong direction has to be keep before activates the alarm.