

NEC DISPLAY SOLUTIONS

NEC FieldAnalyst

AUDIENCE MEASUREMENT SOFTWARE



Anonymous Video Analytics

Anonymous Video Analytics (AVA)

FieldAnalyst is a software solution which automatically detects human faces from images captured by video cameras, and estimates the number of visitors and exits, gender and age group, which are digitalized for output in real time.

The software collects and processes this information for marketing analysis or real-time effective advertising using digital signage. FieldAnalyst enables you to automatically conduct various marketing analysis that have relied on human work until now. The advantages of this NEC solution are speed, accuracy and the ability to integrate into other real-time analysis or reaction based solutions.

APPLICATIONS AND USAGES

FieldAnalyst is an ideal solution that meets the needs of multiple target usages:

Integrated or stand-alone tool that can be used for:

- Digital Signage, DoOH
- Retail
- Leisure
- Real-Time Marketing Information
- Real-Time Detection & Tracking
- Real-Time Classification

OUTSTANDING PERFORMANCE

- People are detected and tracked for counting purposes in real-time. The output of the analysis can be used immediately for reporting, statistics or to change the customer experience via control systems.
- The system provides comparable levels of accuracy as a human, but performs faster and consistently.
- Control the content of in-store Digital Signage displays, provide some wow-factor in a retail environment or collect and display nationwide statistics in real-time.
- Estimated distance and how much time spent looking towards the camera are also measured, important statistics to measure the visual information actually received by the viewer.

DELIVERING GENUINE BENEFITS

Biometric Basis

Authentication (confirmation) techniques that rely on measurable physical and behavioural characteristics that can be automatically checked.

Real Time Sensing

Detection and Analysis is done in real time and is therefore easy to establish relational solution with other on-demand systems.

Uniformity and Objectively

It is different to 'human' analysis, as it works all time and has only one-stable eye to sense people.

Compliant to Legal Requirements

No picture will be saved and only anonymous data will be stored.

Gate Counting

Automatically counting people traffic (in/out).

Effect Analysis

You can analyse the effectiveness of campaigns and advertisements to ensure your efforts are improving your revenue.

Target Analysis

Analyse which age groups are entering your stores, so you can make appropriate decisions on your marketing and business strategies.

Non-Buyer Analysis

Compare collected data with your POS systems to evaluate non-purchasing customer numbers.

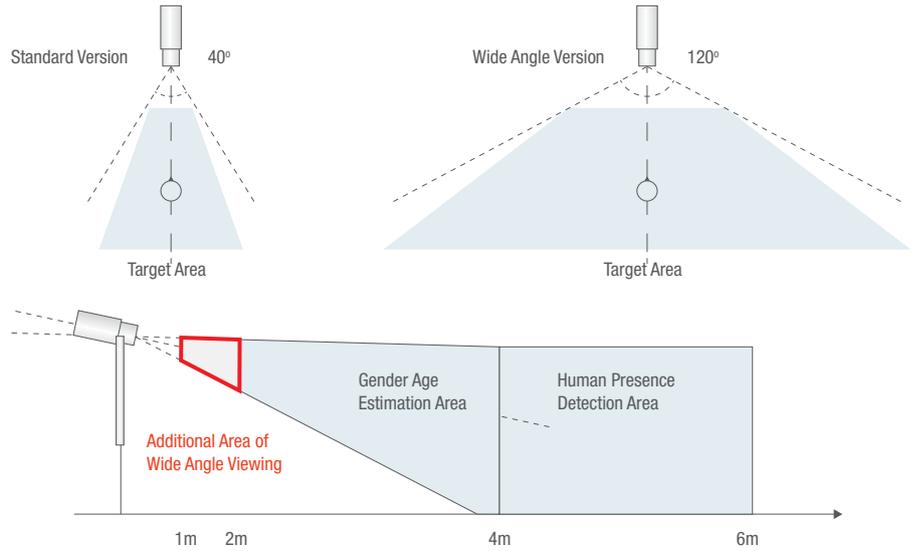
Entrance Traffic Analysis

Provide people counting for shopping centers or individual shop doorways.

FieldAnalyst FOR SIGNAGE/GATE



FieldAnalyst FOR SIGNAGE
STANDARD AND WIDE ANGLE



Standard Version	Wide Angle Version
Human Sensor Body Detection on 2-6m area Gender Age Estimation on 2-4m Viewing Angle of 40°	Human Sensor Body Detection on 1-6m area Gender Age Estimation on 1-4m Viewing Angle of 120°

TECHNICAL SPECIFICATIONS FOR NEC FieldAnalyst FOR GATE

COMPONENT ORDER CODES FieldAnalyst for Gate Licenses (1-5) FieldAnalyst for Gate Licenses (6-10) FieldAnalyst for Gate Licenses (11-50) FieldAnalyst for Gate Licenses (51-150) FieldAnalyst for Gate Licenses (151-500) FieldAnalyst for Gate Licenses (>500)	200004275 200004274 200004273 200004272 200004271 200004276
UNITS FOR COUNTING Gender Age	2 categories: male and female 1-year intervals ¹⁾
IMAGE FORMAT Input Format Size Aspect Ratio	RGB color 640 x 480 pixel 1:1
QUALITY OF FACE IMAGE ²⁾ Size (minimum) Direction (vertical) Direction (horizontal)	28 x 28 pixels or more At an angle (depression) of 10-15° downward from the front side of cameras At an angle of within 22.5° right and left from the front side of cameras
CAMERA INSTALLATION CONDITIONS Capturing range Distance to subject Height Vertical angle between cameras and faces Horizontal angle between cameras and faces	1.8 m width at the subject point 5 m width at the subject point 2.4 m or more Cameras must be installed at an angle of 10-15° to the horizontal Cameras must be installed at an angle of ±10° (0° is recommended)
HUMAN MOVEMENTS Walking Pattern Speed Congestion	Passing through entrance walkways without lingering or meandering ³⁾ Average walking speed ⁴⁾ On average 3 persons per frame ⁵⁾
ILLUMINATION CONDITIONS ⁶⁾ Upside Illumination Lateral Illumination	500 to 2000 lux Within the range of the value of upside illumination x 0.2 to 1.0
HARDWARE REQUIREMENTS Camera Cable Estimation PC NEC Slot-in PC: STv2 Core i5/7 with Windows 7 Professional	IP camera (AXIS), analog camera, USB camera * Coaxial cable or LAN cable With 1 Camera: CPU: CoreTM 2 Quad Q29550(2.83GHz); Memory: 2 GB; With 2 or 3 Cameras: CPU: CoreTM i7 (2.53GHz); Memory: 2.5 GB OS: Windows 7 Professional SP1 32bit or 64bit

CONDITIONS

- 1) In the operation check window, the age can be displayed in 1- or age group intervals.
- 2) The system may fail to estimate when faces are veiled with hats, sunglasses, masks or other person.
- 3) System may fail to estimate when the target person does not walk out or two or more persons remain in the frame.
- 4) The system may fail to estimate if target person passes too fast.
- 5) The congestion is almost the same as where approximately 30 persons enter the gate per minute. If such congestion continues, the system may fail to estimate accurately although the system can process up to approximately 6 persons.
- 6) System accuracy may be affected if the system is used in a place where sunlight condition is significantly influenced by time and weather (especially outdoors), and a place with strong backlight.

* For list of compatible cameras, please contact your local vendor.

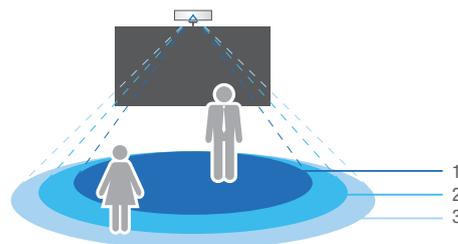
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AUDIENCE MEASUREMENT SOFTWARE

TECHNICAL SPECIFICATIONS FOR NEC FieldAnalyst FOR SIGNAGE

COMPONENT ORDER CODES	
FieldAnalyst for Signage Licenses (1-5)	200004270
FieldAnalyst for Signage Licenses (6-10)	200004269
FieldAnalyst for Signage Licenses (11-50)	200004280
FieldAnalyst for Signage Licenses (51-150)	200004279
FieldAnalyst for Signage Licenses (151-500)	200004278
FieldAnalyst for Signage Licenses (>500)	200004277
EXPORT DATA	
Gender	2 categories: male and female
Age	1-year intervals ¹⁾
Length of Stay	Length of time a person stays in the viewing/sub viewing area ²⁾
Watching Time	Length of time a person looks at the screen in the viewing area
Face Size	Face size of the person who sees the screen in the viewing area
Distance	Distance between the person and screen
MEASURING TARGET	
Scope of Person Detection	Persons who enter the viewing/sub-viewing area
Scope of Gender/ Age Estimation	Persons who see the screen in the viewing area ³⁾
Image-captured Subject	<ul style="list-style-type: none"> Person standing in front the screen Person walking in front of the screen ⁴⁾
Assumed Panel Size	40-60"
IMAGE FORMAT	
Input Format	RGB colour
Size	640 x 480 pixel
ILLUMINATION CONDITIONS	
Upside Illumination	500 to 2000 lux
Lateral Illumination	Within the range of the value of upside illumination x 0.2 to 1.0
Other Conditions	Face should be clearly visible. Basically the following conditions should be satisfied: <ul style="list-style-type: none"> Intense light should not be reflected directly on the image Intense light should not be reflected directly on the face Illumination should be uniform on the entire image The floor/wall should not cause intense reflection
HUMAN DETECTION CONDITION	
Congestion Level	Approximately 20 people at a time
Other Conditions	<ul style="list-style-type: none"> Cannot be tracked when the person moves intentionally fast Cannot be tracked when the person squats down or goes off the screen Cannot be tracked when one person overlaps the other and when the target person is hidden behind the other person
HARDWARE REQUIREMENTS	
Camera	IP camera (AXIS), analog camera, USB camera *
Cable	Coaxial cable or LAN cable
Video Capture Card	DirectX support required and should be a software encoder type (supporting AVI output)
Estimation PC	CPU: Core™ 2 Quad Q29550(2.83GHz); Memory: 2G;
NEC Slot-in PC: STv2 Core i5/7 with Windows 7 Professional	OS: Windows 7 Professional SP1 32bit or 64bit

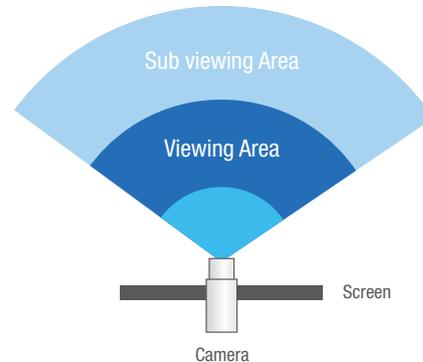
FieldAnalyst FOR SIGNAGE STATUS OF INTEREST



1. Strongly Interested
2. Interested
3. Notified

CONDITIONS

- 1) In the operation check window, the age can be displayed in 1 or 10 year intervals.
- 2) The viewing and sub-viewing areas are defined in the image below.



- 3) The system may fail to estimate when faces are shielded by hats, sunglasses, veils, masks or other people.
- 4) The system may fail to estimate if the target person passes by too fast.

* For list of compatible cameras, please contact your local vendor.

For additional pictures and solutions overview, visit www.nec-display-solutions.com for details.

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