The Role of Video Analytics in state of the art CCTV Surveillance Applications

By

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THE TIME LINE OF CCTV.

A. CCTV is always unveiling a new wonder cure.

B. From “ Complementary Metal-Oxide Semiconductor to CCD “

C. From “ manual b/w 320 tvls to colour 650tvls and mega pixel “

D. From “ Vcr recording to NVR terabyte storage “

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E. From “retroactive to Proactive solutions “ – thanks to video analytics

F. From “ Security to R.O.I “

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WHY VIDEO ANALYTICS ?

A. “20 minutes = 5% of input taken”
B. spotting real events is eliminated to 1 in 1000
C. Cost effective
D. Technological upgrades =Longer life of systems!
E. Fighting Organised Crime

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F. Proactive responsive measures (air port , space research)
G. Prevent Crimes that go undetected (gun detection)
H. Easy detailed search on the potential threat (Face hunt)
I. Machine based learning system
J. Saves time(live and recorded video)
K. Avoids threat to the system (back ups and damage)

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VIDEO ANALYTICS –HOW DOES IT WORK?

A. In Video Analytics, the user can specify the activity of interest, not just movement (Car number plates)
B. Event Detection is based on a growing range of criteria (Mass crowd)
C. Set an area threshold
D. Adaptive algorithms
E. Technology on pixel – nothing misses.

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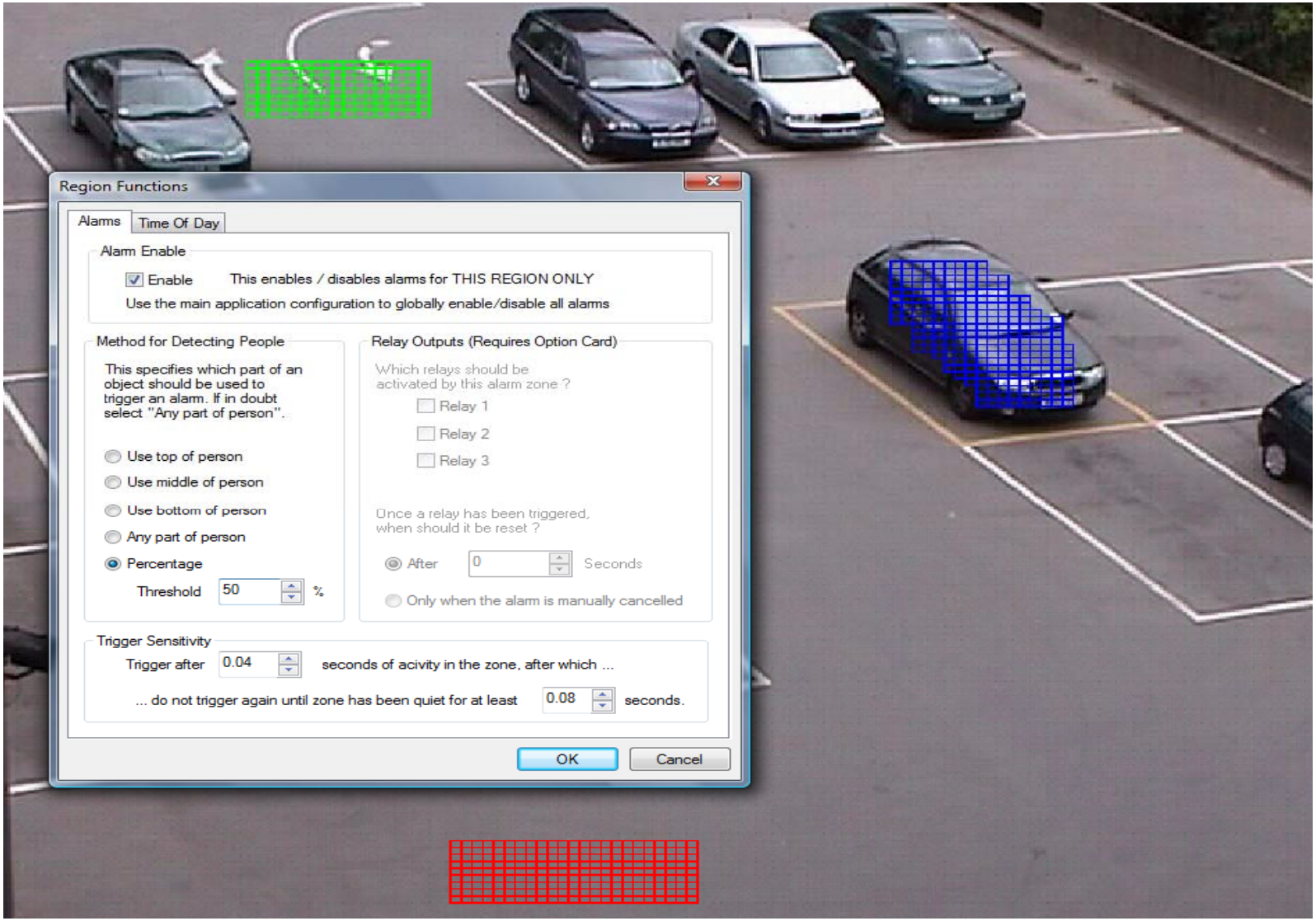

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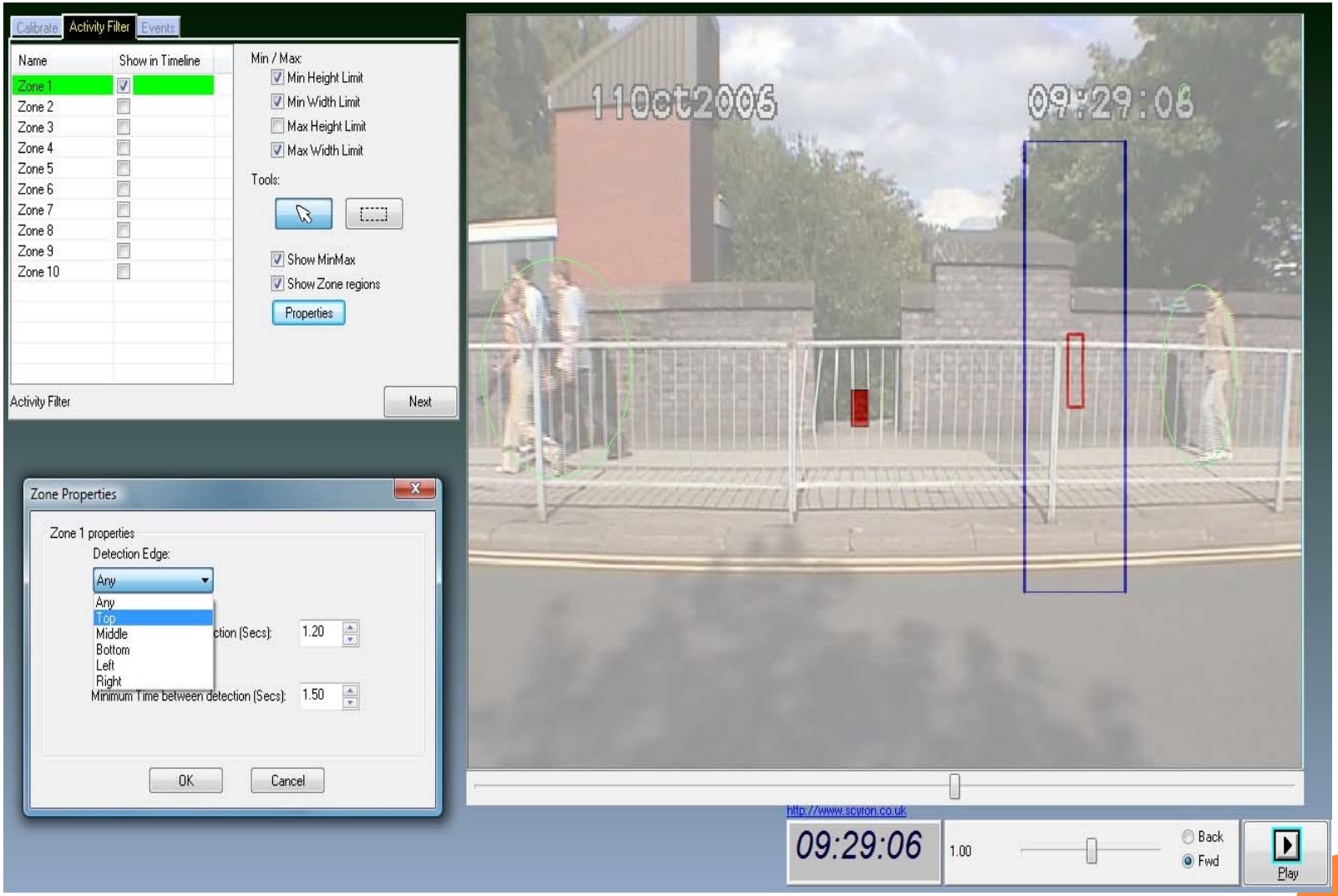

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Feature	Wavelet	Symmetry
Dataset 1	99.57%	73.00%
Dataset 2	94.25%	63.50%
Dataset 3	95.20%	88.73%
Dataset 4	98.24%	93.13%

Fig. 1. Illustration and test results of Pedestrian Detection [40].

Data	Detection Rate
Fluid: 191	186 (97%)
Busy: 33	13 (39%)
Slow Down: 26	23 (88%)
Congestion:6	6 (100%)

2. Illustration and test results of Traffic Flow Classification [37].

	Results
Total Frames	7829
Tracking failure	39 (0.49%)
Real Dozing	15
Correct warning	15 (100%)

ig. 3. Illustration and test results of driver fatigue detection [50].

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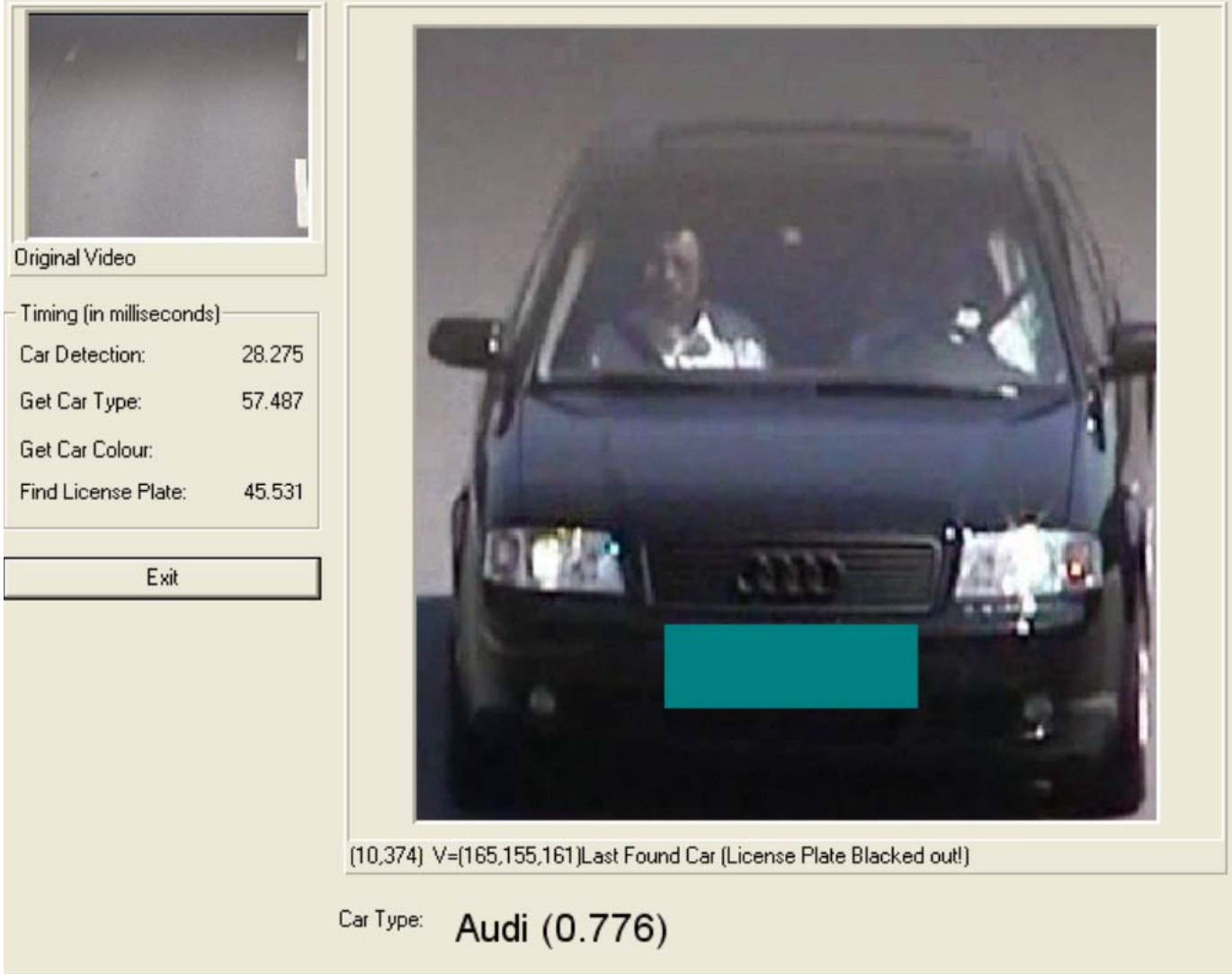

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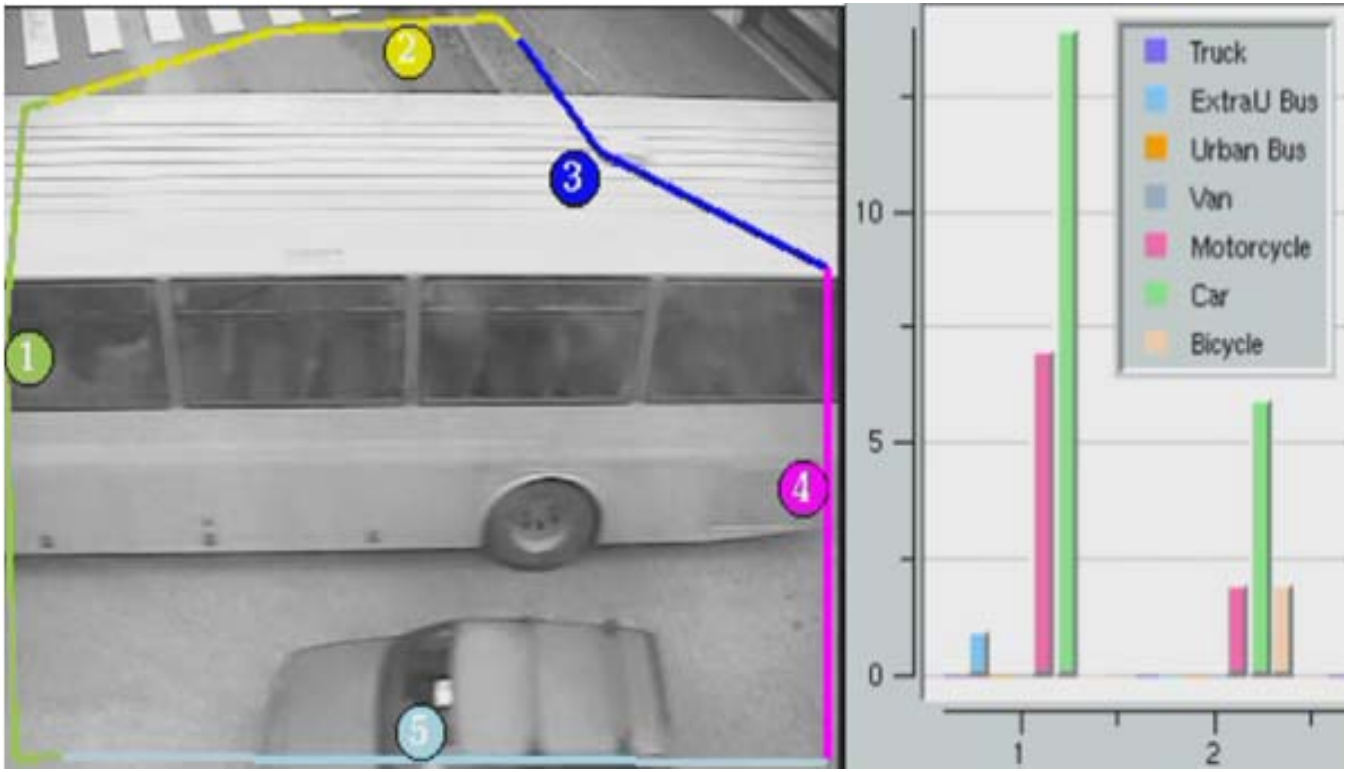

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Kind of Video Analytics :-

A. People/Vehicle Counting
B. Tailgating in Access Control
C. Mass Crowd handling
D. Missing object
E. Object Recognition
F. License Plate Recognition
G. Advanced Motion Detection/Tracking

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CCTV - Value and Market Potential

A. UK Possesses 4.2 million CCTV cameras 9 billion $
B. China's cctv market is 17.5 Billion $
C. India market 8 billion $

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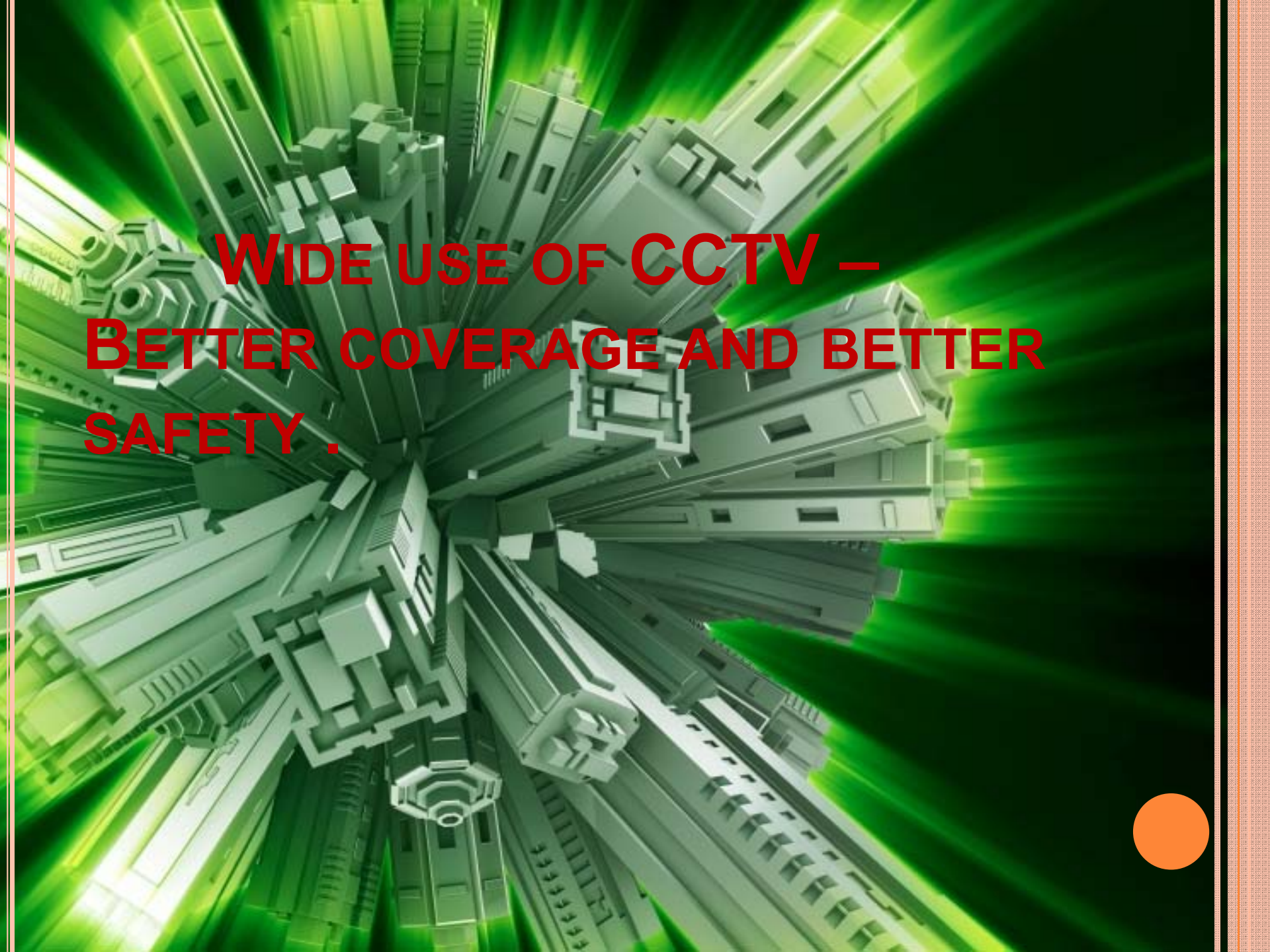
WIDE USE OF CCTV –
BETTER COVERAGE AND BETTER
SAFETY .

A. Used for CCTV at Conveyance stores , Houses , Prison , City ,Factories , Showrooms and Offices

B. Railways , airports , Schools and universities , banks , other financial bodies , defence and other bodies .

C. public amusement places like Malls , theater , and stadiums needs to have or upgrade to analytics.

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Now “ R.O.I “ on CCTV…

Challenges faced in India scenario

A. Lack of proper cctv coverage
B. Quality conscious
C. Change of attitude – Public safty to privacy
D. Tax structure from 12.5% , customs duty 26% .
E. Realization of the potential use of the technolog
F. Remedies like Insurance benefit and Tax Deduction must fall into place

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WARNING!

A. Brand Sony is confused to Sony chip – set
B. Market misled by early systems performance
C. Their capabilities were exaggerated – Check for them!
D. Technology is still being oversold

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E. Ip might not be the solution you need
F. Analytics is mixed up with motion detection
G. Stand alone DVR vs DVR cards.

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Kind of system you need…

ASK ME!!!

A. For house and Domestic use go for Stand alone DVR .

B. For Corporate and bigger use go for analytics with Matrix based system or IP based on site sensitivity

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“If you want to install and use a CCTV surveillance system that has Video Analytic capabilities then contact us ...

The CCTV Pioneer with an enviable track record of such systems in INDIA

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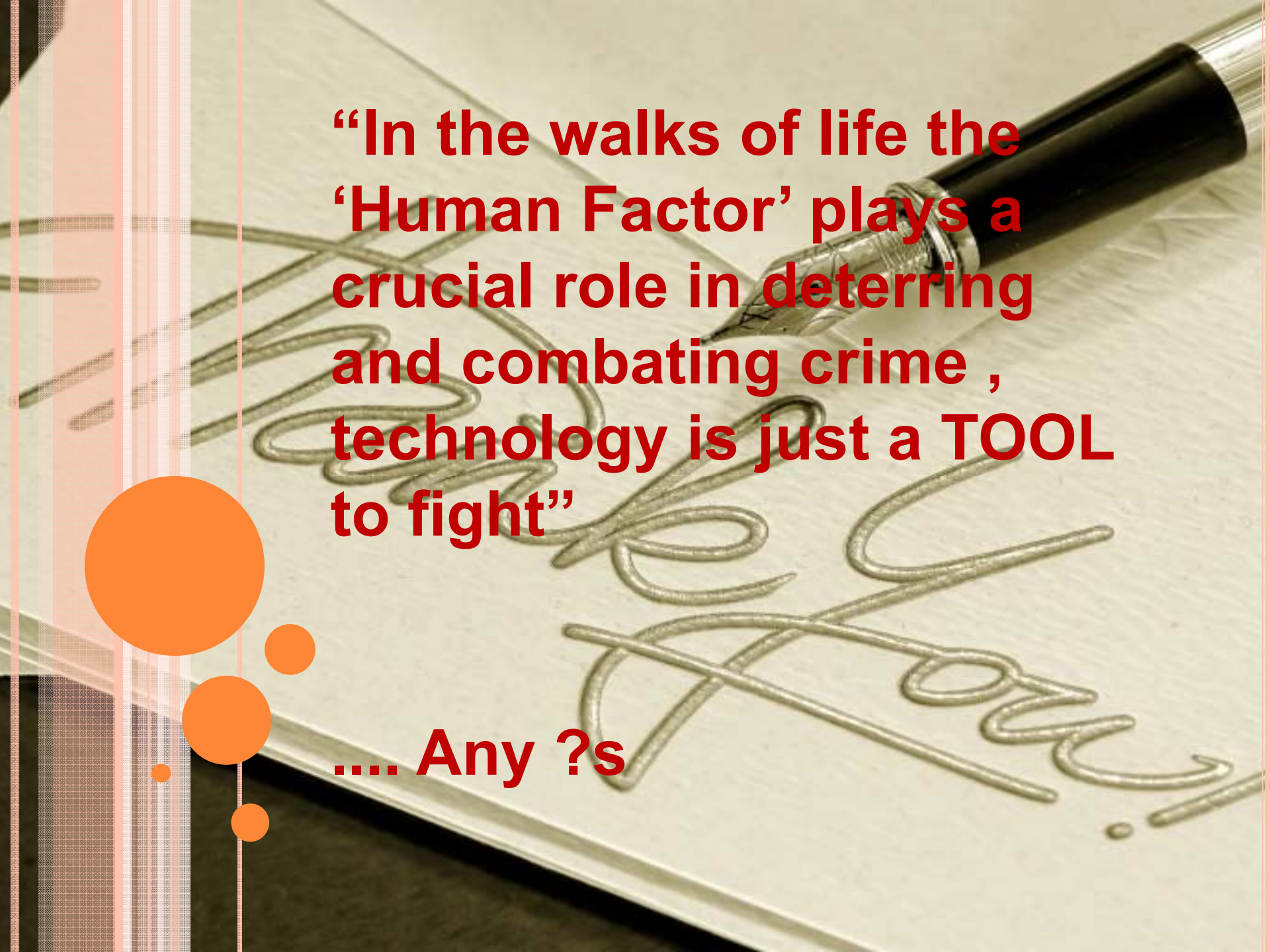

“In the walks of life the ‘Human Factor’ plays a crucial role in deterring and combating crime , technology is just a TOOL to fight”

.... Any ?s