Real
is
Simple

Simple
is
Real

www.digitalact.co.jp

DIGITAL ACT

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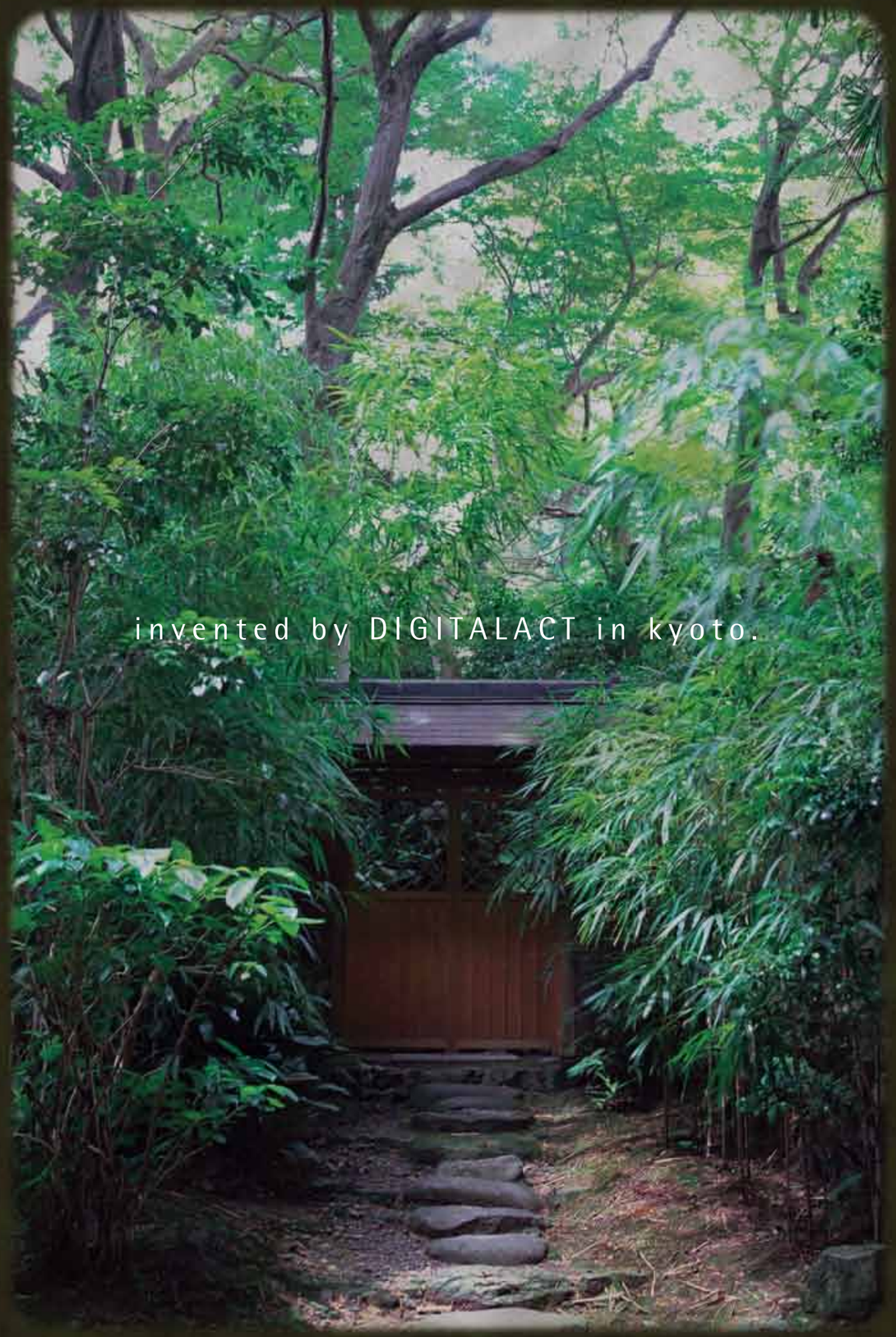
DIGITAL ACT

COMPANY PROFILE



【shu】守 Preserve

【ha】破 Fragmentize

【ri】離 Renew

To educate one how to “preserve, fragmentize, and renew” information provides one with a new perspective. A master’s teaching is faithfully “preserved”. The teachings are carefully “broken down or fragmented”. We then separate ourselves from this process to observe from a new perspective. Digital Act offers a new perspective to the vast digital field by means of a proprietary analog approach through this process.

PC Generation
Personal Computer

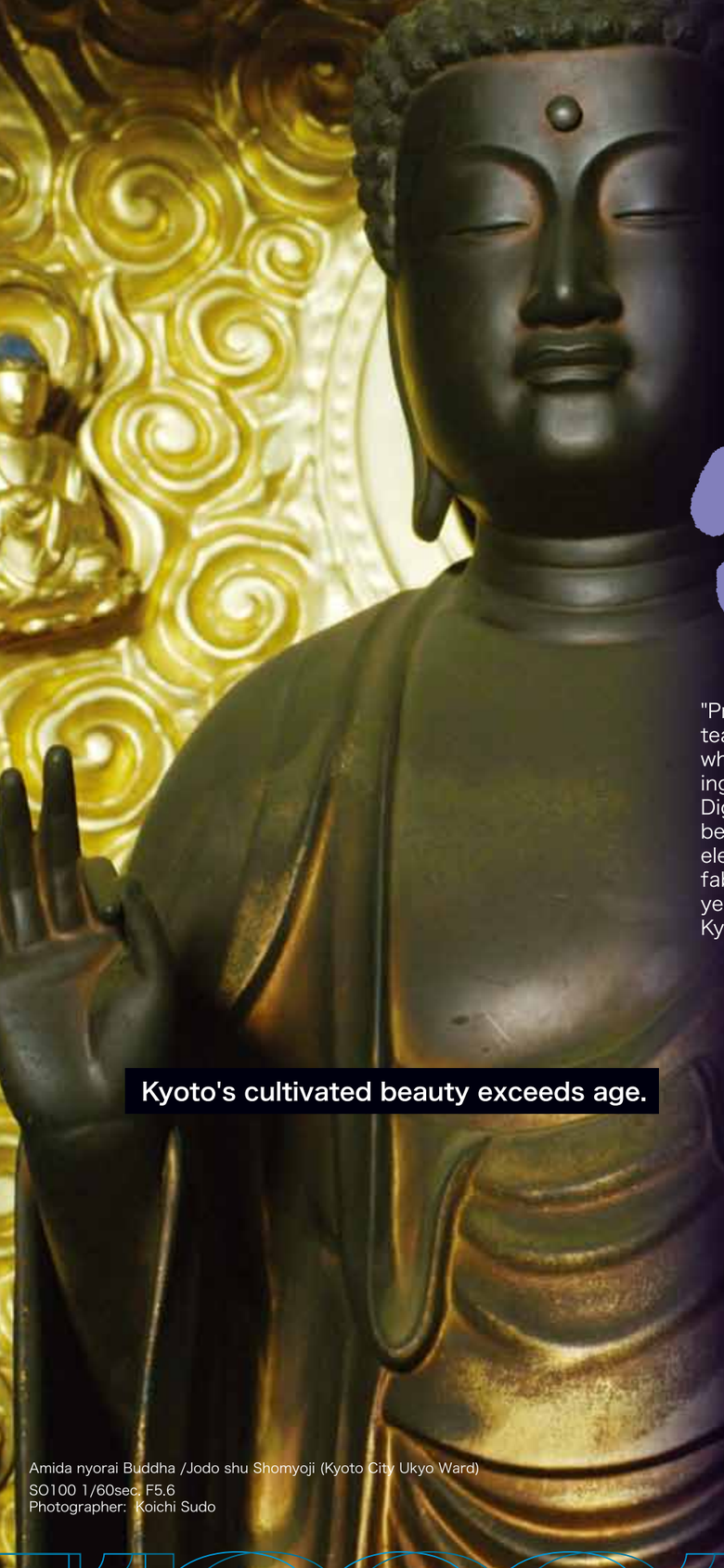
Consumer Electronics Generation
Consumer Electronics

Ubiquitous Generation
Ubiquitous

DIGITALACT
Technology/Planning/Content Proposal
- Loss-less compression/ high-quality quantum restoring technology
- Transmission technology
- Application design and idea initiatives

Enterprise
Consumer electronics not dependent on the PC
- One touch operation
- Built-in microprocessor
- Image processing and other services

Market
Market needs
- User friendly
- New lifestyle
- High security



Kyoto's cultivated beauty exceeds age.

Amida nyorai Buddha /Jodo shu Shomyoji (Kyoto City Ukyo Ward)
SO100 1/60sec. F5.6
Photographer: Koichi Sudo

守【s h u】

"Preservation" is the first stage where the teaching of the master is faithfully learned, where the knowledge base and etiquette is ingrained.
Digital Act's history stems from the delicate beauty of everything that is Kyoto: the elegance of the Nishijin multicolored silk fabric, the ancient Buddha image and 1,200 year artifacts from the antique town of Kyoto.

Mobile
Mobile TV

Traffic
Traffic info
Disaster remote hook up

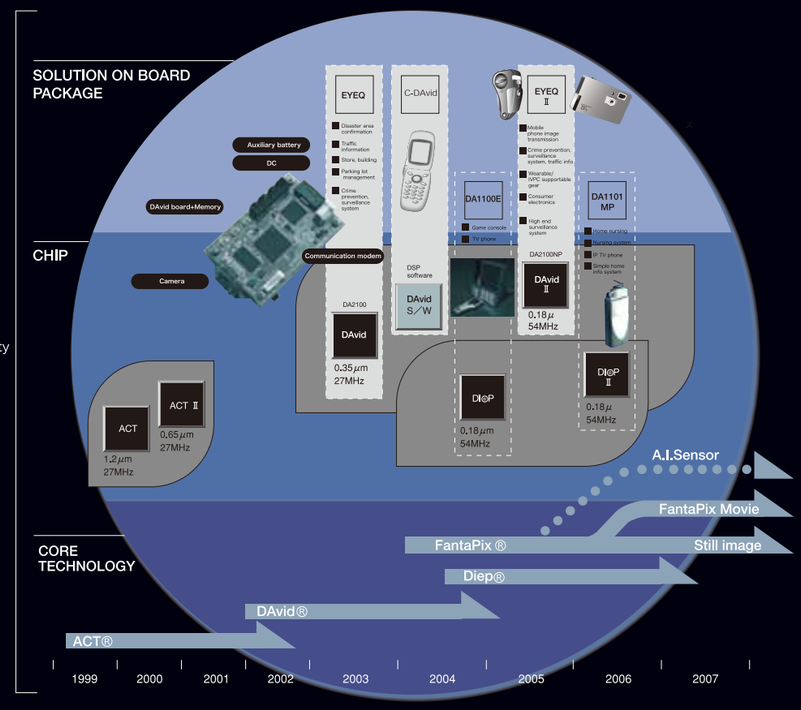
Security
Crime prevention – surveillance system
Store, building, parking lot management

Medical
Home care, nursing
Medical image data sharing

Processing/
Image/
Compression capability

Entertainment
Mobile phone video
transmission Game

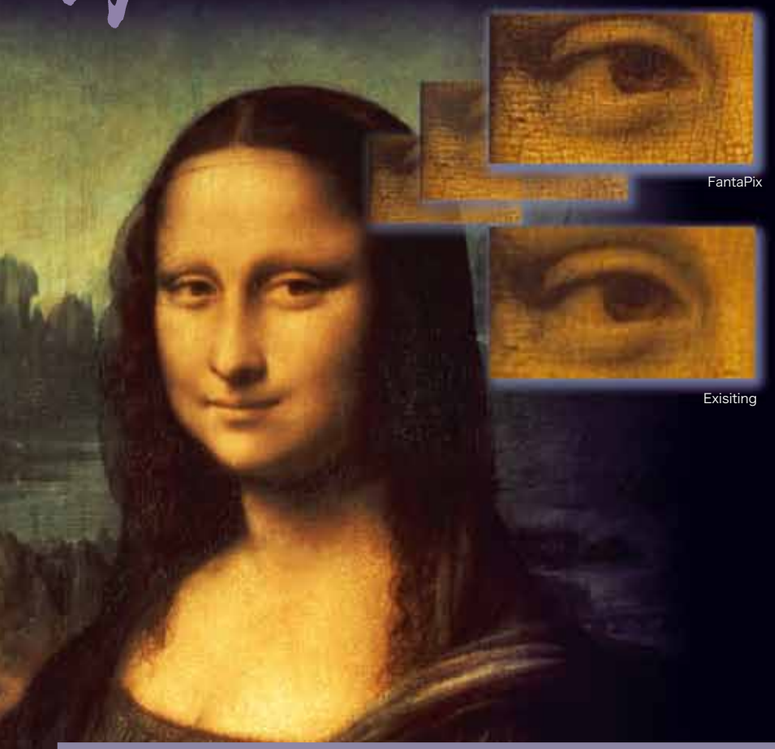
Communication
TV phone



Dec 1999 : Digital Act, Inc. established
March 2002 : "DAvid" video codec chip for narrow band developed
November 2002 : "Diep" Entertainment video/audio chip developed

1998 1997 1998 1999

守【s h u】



To leave a lasting impression is the ultimate goal.

There was a time when a new age and sense of astonishment was felt when new and amazingly convenient products were introduced.
Leaving an impression on the user is the ultimate goal.

To achieve this “Impression”, Digital act uses images as the medium to create a higher level by discovering and developing new technologies, new product design and development, and undertakes business planning and innovative marketing.

One method of achieving this is: FantaPix.

Non-degrading loss-less image compression technology
High-quality quantum image restoration technology

FantaPix®

Patent 3530844

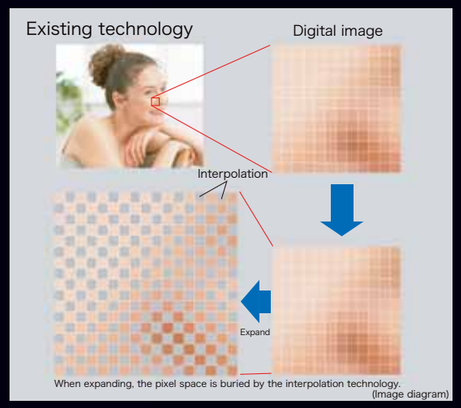
Digital Act specializing in realistic print (analog) output, researched the reproduction of digital ultra-high-resolution imaging that made the best use of optical lens' properties, and succeeded in the development of its proprietary "loss-less compression and high-quality quantum restoration technology" (FantaPix) of which the image does not deteriorate. Patent No.3530844

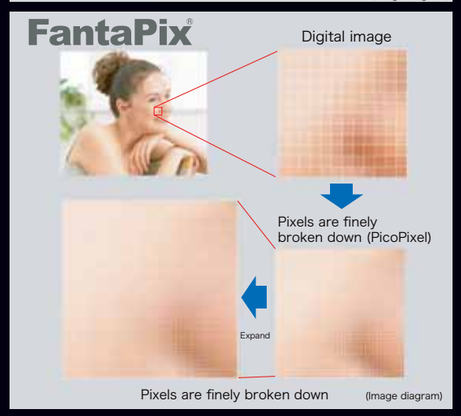
FantaPix features the following

- PicoPixel enabling technology (high-quality quantum restoration technology)
- Non-deteriorating loss-less image compression technology

①PicoPixel enabling technology

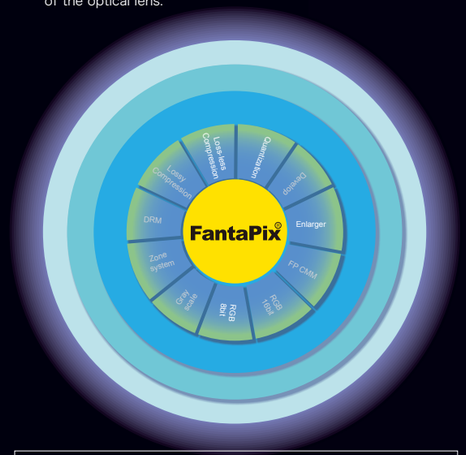
Current digital images resemble mosaic pictures and are strikingly different from the smooth and mildness of enlarged analog photos where the characteristics of the lens has been made the best use of.
"FantaPix" crushes the mosaic into minute pixels which allows for smooth digital images.
Up to now, digital images could not freely be manipulated due to the basis of its mosaic properties. To manipulate the mosaic image freely, and to reproduce beautiful, natural light, Digital Act developed the evolutionary "PicoPixel" technology. This problematic image data processing was thus overcome.
"PicoPixel" making technology is a mosaic destruction technology.





②Non-deteriorating loss-less image compression technology

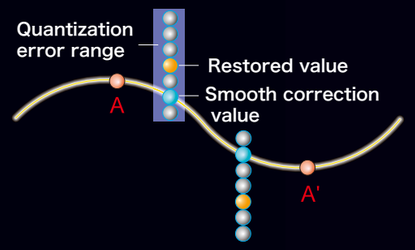
There are 2 kinds of image compression technologies: “Loss-less compression”, which allows for full restoration of the image's beauty and its data without degradation. “Lossy compression” (eg. JPEG, etc.) allows for high compression rates (heavy processing required). These are the 2 main compression technologies available.
However, the increasing demand for high quality images available from new digital high res cameras and broadband transmission services, new technologies are required.
Digital Act prides itself in the development of “ultra high-quality/resolution” digital image technology, achieving the same results as analog print output which best utilizes the characteristics of the optical lens.



Strong technology creates new technology

“FantaPix” is the resulting next generation format when the image is generated with the proprietary "PicoPixel" technology. It's compact engine and algorithmic quantizing technology restores the image utilizing approximate line algorithms creating ultra high-resolution image quality.

Decode: sub-pixel smoothing correction



Minute quantization errors are present in low frequency sub-pixels.
In order to reduce the re-quantization error, the main pixels between restored adjoining blocks are smoothly corrected using the loss-less method. This is corrected by estimating brightness curves smoothly in the quantization error range. And such, compressing block noise, etc. with the loss-less method, the results are revealed.

Aiming for world standard through proprietary digital technology development.

FantaPix (loss-less compression/high-quality quantum restoration technology) developed in November, 2003

2000 2001 2002 2003

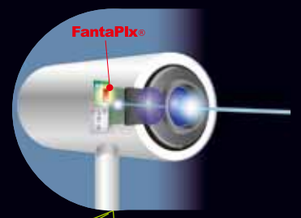
破【h a】

Building on the master's experience and training and at the same time destroying it, the second stage is realized in its own way which understands the true intentions. Digital Act develops applications based on loss-less compression/high-quality quantum technology called FantaPix. It fully restores the image and doesn't deteriorate.

Camera
Digitalcamera

Mobile
Mobile phone･PDA

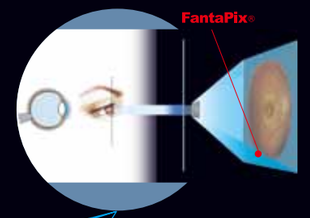
Sensor
Security



Automobile
On-board vehicle recorder

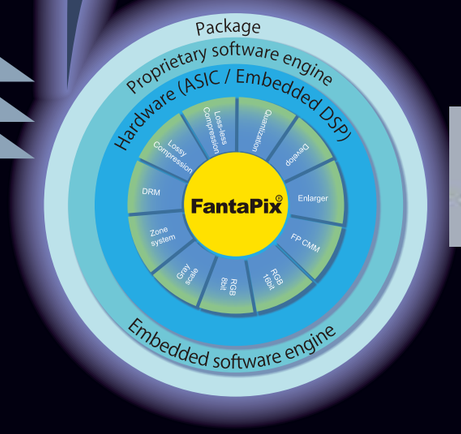
Upconverter
consumer electronics

Image recognition
Retina recognition



Package	Embedded software engine	Proprietary software engine	Hardware (ASIC / Embedded DSP)	Quantization	Develop	Image expansion	FPCMM	RGB 16bit	RGB 8bit	Gray Scale	Zone system	D R M	Loss-less Compression	Lossy Compression

A.I.Sensor
FantaPix Movie
FantaPix ®
Still image
Diep ®



Print driver
Multi Function Printe

Factory sensor
Temperature sensor

FantaZoom
Lossy Compression
Past image

FantaPix ＋
Package sales

PhotoPicoPixel series
Online sales

Today's information society is supported
by a variety of technological advances and deveopment

特許第3530844号取得

Patent received（#3530844）

国際特許申請済み PCT/JP99/07129

経済産業省 産業クラスター計画
関西フロントランナー大賞受賞

2004/03　FantaPix（loss-less compression/high quality quantization compression technology) patent received（#3530844）

2007/03　『FantaPix』technology winner of 1st annual Kansai Front Runner Award (presented by Ministry of Economy, Trade, and Industry)

2007/10　『PhotoPicoPixel Series』download version announced

2004 2005 2006 2007

Beauty soars to digital perfection

The milkweed butterfly is also known as the “King Butterfly”

This beautiful butterfly is known to travel great distances.

In the fall it flies from the northern hemisphere in Canada to winter in Mexico, in the south.

It is a distance of more than 4,500km.

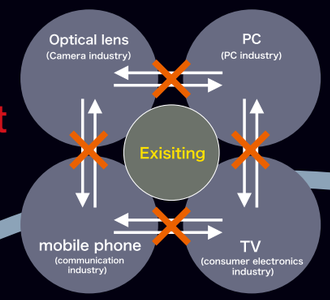
This extraordinary flight energy is kept secret in this small body of only several grams.

In addition, its incredibly accurate positional abilities allow it to always return to the same tree every year.

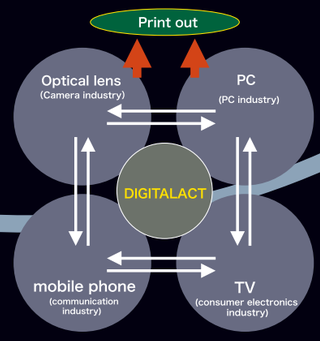
mysterious display of power within this beauty is incredibly impressive.
And Digital Act continues to soar beautifully in the direction of perfection of the future digital world.

Future world

Present



Because methods for digital image conversion differs for each industry, there is no collaboration making it difficult to print out (analog output) and compatibility even more difficult.



In order to improve Digital Act’s technology compatibility, it aims to create a color management standard of the image output (display and print out).

There is demand to standardize the print drivers for images created from information generated from an optical lens.
Within each industry there are attempts to develop a universal standard, however a conclusive answer is still pending. The development of the digital lens system P4L: PhotoPicopixel Print for Lens, which bundles the color by converting the digital image into print data quite advanced.

2008 2009 2010 2011

【ri】

This is the third and final stage which escalates to the level of accomplished art, perhaps achieved unknowingly through the knowledge learnt up until now.

Digital Act promptly moves forward not only on advanced methods and processes, but also takes the time to step back to approach the subject from a different perspective.

Intellectual property rights, talented staff, participation of advanced field enterprise…Digital Act has an open studio mind, sensitive to the market requirements and continues to pursue research and development in a think tank environment.

Digital Act was established in Kyoto,
with the power to predict and create a new future.

A.I.Sensor

FantaPix Movie

FantaPix®　　Still image

Diep®

Permanent image recording system

A.I Sensor ／ Machine vision

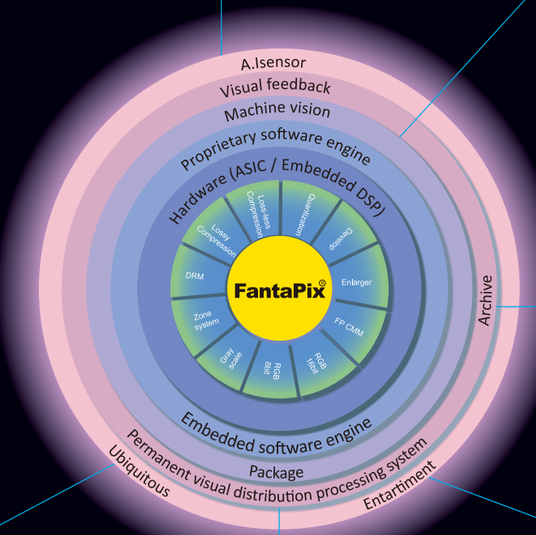
Artificial intelligence

Robot

The evolution of robotic sensing technology has come a long way.
Actions are predicted following laws of natural energy and adopted which brings them closer to human actions.
Research and development on algorithms for statistical expectation values is being carried out for the development of future operating environment robot applications.
Digital Act collaborates on projects using remote sensing satellite imagery, visual and non-visual light techniques, re-sampling image technology to process images from EyeCatching, TEC, visible/non visible light rays and even wave forms for concepts using remote sensing and visual feedback such as Seeing Eye Dog and TEC.

Automobile [ITS specification visual feedback engine]

Development of vehicular sensing technology for character and movement recognition has progressed significantly.
The processing speed said to be impossible is achieved in the visual feedback in those control fields in the image data processing imagined from JPEG2000 etc
The effective results of improving the accuracy of the detailed morphology processing and the entire object image is offered with the high-speed processing.
Safe driving requires that information be transmitted at high speeds, thus the high demand for a specific vehicular image processing engine, which is currently under development.



Archive

Permanent image recording system

[Digital papyrus]

Various artistic production and valuable documents such as paintings, drawings, literature, etc. are saved as images and the special image archiving devices are not yet perfected.
Research regarding recording devices for archiving loss-less data, without deterioration for centuries is progressing.

Ubiquitous

Information appliances

The ubiquitous generation has arrived.
In addition, all of the control for the electronic devices will be generated from them through content processing which will be built within.
If an analog wave form could be recorded in the form of a digital image, it would be possible to apply this to all objects.

Next gen network environment

Permanent visual distribution processing system

Presently, picture storage, image processing and enlargement of contents quality cause overwhelming system problems of the internet environment which was not originally constructed to accommodate such traffic.
Research and proposals which assure improvements in system environments with visual parallel distributed processing through the estimate of the future system loads are becoming advanced.

Entartiment

Home theater

[Real 3D screen/Next generation virtual reality space]

We increase the resolution to better depict images, to display film level contrast the optics are strengthened, to mimic live theater high vision large monitor systems are introduced into the household.
Three-dimensional imagery will be the norm in the near future and research on motion picture format for home theater use is progressing rapidly.

2012 2013 2020

Next generation Lifestyle brought to you by

Digital ACT

The object is preserved,

The object is digitally torn apart (virtual reality)

We separate ourselves from the torn object to see its true quality.

Digital Act introduces a new generation.

Corporate Vision

New consumer electronic goods used to be quite expensive, however, with new domestic and embedded (micro computers) technologies, not only has price come down, availability and convenience has increased, through increased development and commercialization.

On the other hand, the personal computer has become a multifunctional device, widely available as a general purpose tool to process multimedia information, as well as act as the base element for products in the information appliance market. However, the personal computer which was supposed to offer an open development environment, is severely restricted due to its OS and standardization. It is controlled by a monopolized technology, which the manufacturers must comply to within its narrow standards, perhaps making the market not as interesting as it could be.

There was a time when a new age and sense of astonishment was felt when new and amazingly convenient products were introduced. Naturally, the consumer electronics market commands simple, convenient, and cost performing products.The next gen home information appliances must make bes t use of all of our senses in order to create the most useful and convenient devices. The objective is not whether to use digital or analog technology, but rather how to make the biggest and lasting “impression”.

To create this “impression”, Digital Act focuses on the image (moving and still) through high-tech discovery, product design and development, as well as business planning and marketing. In the image processing field, there are a number of de-facto or standards with respect with to image compression and image transmission methods. However, when you try to catch the eye of the general consumer with these de-facto or standard methods, it is soon realized that they are only standard with a small part of this general consumer group.

Digital Act is not caught up with the restrictions of these methods but instead it takes a step back and modifies its attention in order to move forward very quickly.
In order to provide superior service and quality products to the market, Digital Act relies on its quality staff, intellectual property, and open studio mind to pursue development with the same capabilities as a large firm.

As part of Digital Act's current business, it focuses on developing superior IP such as advanced AI sensing technology, black light sensor systems and content which can be projected as high-res images, onto large screens, and developed naturally all within a profitable business structure. Digital Act's development is not imprisoned by the stereotypes or de-facto standards. Instead, it creates new "impressive" products through its licensing business, system LSI sales business, etc. which provide a continuous revenue stream base. Digital Act concentrates on effective use of management resources which are appropriate for these businesses and pursues management efficiency with a prompt decision-making system. Digital Act endeavors to contribute to the development of the information industry, in a region which excels in this domain.

Advanced Compression Technology

Since the establishment of Digital Act, the company has worked very hard through trial and error to develop and pursue new technologies in a different manner from the traditional digital industry which has all but forgotten the analog approach in the creation of today's ubiquitous environment.

The Japanese industrial world is also moving towards developing “next gen information appliances”, with common elements such as portability, internet, entertainment/media and every day life habits.
Digital Act is a small company which leads the industry as a result of its superior engineering capabilities and received the highest award at the Industrial Economic Ministry awards show in March 2007 for its image processing technology.

In order to acquire information the hurdles that current hardware (PC’s), peripherals, operating systems, software application, and communication infrastructure must be overcome, and a new environment must be constructed to become a truly integrated digital society.

The proliferation is limited by these and the infrastructure investment cost on the distribution side is huge and ultimately the cost is past onto the end user. Furthermore, lifestyles will be a part of the information environment felt by all of our senses centering on the image. With the exponential increase of information, it is clear that problems with image processing will also increase.

On the other hand, creating simple embedded tools made for information home appliances which include outdoor elements to improve human lifestyle and make an impression on life is important.

One way to achieve this is the use of power supply lines in order to communicate. The cable TV networks and telephone line systems are a big part of society's current infrastructure which also play a large part of the Digital Act concept and vision.

In working towards developing concepts for information appliances and services and licensing our advanced technologies, Digital Act will work toward forming a leading informational think tank group.

代表取締役　斉藤 和久

Representative director.
Kazuhisa Saito

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