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## 2000 is Closer to 1984 Than You Think

### Techology Eliminates Much Personal Privacy - A Police State Is Possible!!

We have all heralded the dawn of the information age. Everywhere you look people are being wired up to the Internet and soon there will be no place that you can go that will be free of the technology. That is wonderful, right? We should all take a moment to think of the ramifications of this. With the invasion of Al Gore's Internet invention, what is happening to our personal freedom?

We are in a position where technology can pinpoint our location, see what we are doing and record it in such a way that we have no option but to provide an electronic trail that anyone can use in any way they desire as long as they have the will and the means.

Remember when members of the Reagan administration were surprised to find that the e-mail they had sent to the waste basket was not really deleted and was later used against them.

More recently, a few months ago there was a virus that spread around the world in what seemed like an instant. Once it was stopped it took no longer than 48 hours for the government to find its origin and confiscate computers from the alleged culprit's bedroom. That was great police work right? Yes it was, but what does it mean when a government or some misguided bureaucrat decides to use this

## Face Recognition By Computer Is A Reality

### Systems Exist That Can Electronically Pick A Face Out Of a Crowd

While doing some research for one of our clients, we came across some systems that are very futuristic and potentially dangerous if applied the wrong way. There are at least four universities that we know of with working systems that have the following features:

- ◆ An inventory of "faces" that are classified by characteristics that identify them as uniquely as a fingerprint.
- ◆ A face capturing system (remotely mounted cameras) that can capture images without the individuals knowledge.
- ◆ A "fuzzy logic" set of programs that can locate a face on campus based on the inventory of faces in the database.



A GPS, Cellphone, Internet and Camera - All in One Device

(continued on page 3)

## Zinnote® To Be First With Windows 2000 Certification

### Positive Support Review and VeriTest Use Zinnote® as Certification Model

Positive Support Review's BEST OF COMDEX winner is being used as the product to validate the certification process of Windows 2000. Zinnote already is identified as a product that can carry the label "READY FOR WINDOWS 2000" and with the completion of this joint project will be able to display the Microsoft "Designed for Windows 2000" logo.



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technology for some other purpose. I do not want an "IRS agent" or competitor to have the ability to see where I have been on the Internet.

Computers are wonderful tools when used for the right purposes. However, we are embarking on the next generation of evolution where computers can not only calculate the right number but monitor everything using "fuzzy logic" programming to make some interesting conclusions.

### **Universal Phone Numbers**

We all appreciate the fact that soon there will not be enough phone numbers to accommodate the need we have for cell phones, faxes and modems. Telephone companies are starting to market systems that will automatically find the "instrument" that you are at when someone dials you. Today the system works by ringing several instruments at once as well as call forwarding. How long will it be until the "system" knows where you are at any moment?

### **Car Locator Systems**

A few years ago millions tuned in to watch the great O.J. freeway chase. What was not widely broadcast was that the police located O.J. by triangulating his position while he was talking on his cell phone. This technique has been taken a step further with the introduction of the 911 chip. Today, your exact location can be transmitted to the police as long as your phone is turned on.

It is a common practice for police to put a "LoJack" transmitter in the vehicle of suspects that are under surveillance. Most police agencies already have systems in their squad cars that can be used to track vehicles.

### **Robotic Ticketing**

If you drive through Beverly Hills, California today and run a red light, a robot will send you a ticket with a photo showing where and when you ran the light. That means intersections in Beverly Hills all have cameras linked to a central location that captures the image, translates the license plate number to data and transmits the file to the DMV. Once that process is completed the digital photo and citation are mailed to you with a \$287.00 fine.

A similar "traffic" control system was operational in China before the student protests a few years ago. The government used those photos to "identify" protestors.

### **Black Boxes in Car**

Since the early 1990's General Motors and Ford Motor Car have installed recording devices in selected models that record the "last five seconds" of occurrences in a vehicle before incident. Known as a "Sensing and Diagnostic Module" or SDM it measures the position of the drivers foot, how far down the gas pedal is pressed, when the brake was applied, if the seat belt is attached, when an air bag deployed in addition to calculating the force of the crash.

These devices were first deployed in National Car Rental fleets and top of the line vehicles like the 1998 Cadillac with "driving systems." Until recently few lawyers and the general public had no idea that this type of technology was being deployed.

An earlier model was deployed in the 1992 Corvette of former professional football player Jerome Brown, who was killed when his air bag prematurely deployed and his vehicle hit a pothole. His attorney Edward Ricci argued that the SDM proved the crash was caused by the air bag deployment. General Motor contests this conclusion.

The device in the Lumina is the size of a video cassette and is located under the front seat. In one accident that occurred on Northwest 54<sup>th</sup> Street in Miami late on the afternoon on Feb 7<sup>th</sup> 1997, the driver of a Lumina was killed. The device in his vehicle showed that he was not wearing his seat belt. This is great information for the police and insurance agency investigating an accident. Who gave them the right to deploy this technology without the knowledge and authorization of the vehicle's owner?

Now, what is going to stop manufacturers from adding additional features, like voice recording and GPS locator systems that give them a handle on where we are and what state we are in, nothing! Cadillac has already implemented this technology, the "On Star" system! What is amazing to me is that people are willing to pay extra for this intrusion into their lives.

### **Summary**

What does all this mean? Well, first we have to ask ourselves do we really trust all of the people and agencies to do the right thing with that information? Next we need to know if all of the technology that we have in place is worth the potential intrusion into our privacy.

Think about the customer identification systems that grocery chains have in place. If you do not use your "club card" you pay significantly more than if you do. If you do use the system, they know what you buy and when you buy it. Is that worth the savings? 

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In one case we saw an example where a face from the directory was put into the system as a query and in less than 1 minute the individual was located on campus and was then the subject of the capture cameras. Now if a university can have this, think of what some governmental agencies can do with satellite photos.

Granted this was a limited set of faces that were used; however, the overall impact of the system is striking. It means that someone with this type of system can keep track of faces as long as there are cameras. Now think about how this could intrude on your privacy.

This technology is not all bad. There is an entire series of valid applications that can be designed using this technology. For example, in the security arena, bureaus issuing ID cards could use this technology today. These may include:

- Department of Motor Vehicles (DMV)
- Health-care agencies
- Government benefit programs
- Passport offices
- Anywhere else where facial identification is required

We also found several companies that have commercial applications of this technology. They provide the software foundation for a wider gamut of applications, including:

- Physical access control
- Computer security and log on
- Law enforcement - suspect identification

- Entitlement programs
- Voter registration

Many of these products combine a robust and powerful face recognition technology with an automatic interface and several powerful search tools. These include:

- Automatic face detection and eye location
- Fast one-to-many and many-to-many search capabilities
- Database scrubbing (automatic redundancy minimization)

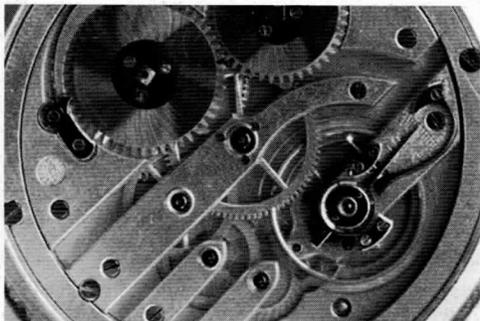
Hardware and software requirements for these types of systems are not all that great. They do not require Cray super computers. Rather, one system we saw works on a 90 MHz Pentium. The operating systems are not exotic, they use Windows NT4.0, Windows 95, OS/2 or Linux.

While the resource requirements could be improved, the performance statistics are very impressive. They are able to achieve success rates of 98.9% in less than 2 seconds for capture, feature analysis and verification. Verification takes less than 10 ms for a single face when it is contained within the database.

We found over two dozen companies in the US that have products in this area. Some have great GOVERNMENT references for applications that are in place and operational today. Big brother is watching!!!

If you want to learn more about these types of systems you can start by going to <http://www.cs.rug.nl/users/peterkr/FACE/face.html> 

## Zinnote Supports Office 2000 - Ready for Windows 2000 Free Download - [www.zinnote.com](http://www.zinnote.com)



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# Forecast for the National Information Technology Market

## What Should You Do To Get Ready For The Downturn That Is Coming?

by M. Victor Janulaitis  
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As we look at the last several years we have been fortunate to have an economy that just keeps on ticking. There has been no inflation, the NYSD has rocketed to over 10,000, and technology issues including the Internet have driven the NASDAQ to dizzying new heights. Your job is secure, your company is going to continue to expand and there is no concern that your company will be merged out of existence. Things are wonderful, right?

In fact, there is so much appreciation in the technology market that companies like Yahoo and AOL are using stock to acquire new businesses and expand their scope. For example, Geo Cities (based in Marina Del Rey, CA) was recently acquired; as a result 600 people lost their jobs. Sure Yahoo did a great job of outplacement and found work for most, but if times were not as good?

There is an old saying that is very true, "What goes up must come down." Looking at what is happening one can see signs that things are starting to change. Housing prices are edging up, the Fed is starting to take actions that say interest rates are going to move up,

and there are days now where the major US stock exchanges go up 1% in value one day and down an equal or greater percentage the next. All that has to happen is for some minor negative events to occur and our markets can feel the pinch of fleeing funds.

Some very basic things need to be done by all of us. They are the things that will help make the difference when things go badly and it is time to find a new job.

**Keep Networking** – How many of us do not look outside of the universe of our day-to-day jobs, our family and friends. The key to getting your next job will be to have the contacts in advance that can open the door to the next employer. Every one of us needs to "belong" to the right associations and develop contacts with our peers in other organizations. At the same time foster relations with vendors and recruiters who know where the new jobs are.

**Focus on Skill Development** – It is so easy to say that we are busy working on this project or that one and forget that technology is advancing at an ever-increasing rate. Start to invest in

yourself and know how to apply the new tools that are out there. In the next few months things will happen in the technology world: inexpensive wide band accesses to the Internet (DSL now available for less than \$50.00 per month); multimedia will be a key deployment technology; new versions of the office suites will be launched; two new operating systems (Windows 2000 and Windows 98 Version 2) will be launched; and all of the desktop applications will rerelease new versions that are Y2K compliant and work with the new operating systems.

**Know the Right Time** – The first person to jump ship will have the best chance to look at more options. If you see things are starting to go in a direction that is not right for your long term career then get ready to move fast. It is the same as in the stock market, as a stock starts a six month fall, your loss is less if you dump it the first month versus the fifth or sixth month when it's worth nothing.

These are things that you should do in good times as well as bad. They are things that most successful people do, the question for you is do you do them? 

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Location	Prospects Short Term	Prospects Long Term
Northeast	Excellent	Excellent
Mid Atlantic	Excellent	Good
Southeast	Good	Good
South	Good	Good
Midwest	Excellent	Good
Southwest	Excellent	Excellent
West	Excellent	Good
Pacific Northwest	Excellent	Excellent

Best Location	SouthWest	Pacific Northwest
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