



ST.XAVIER'S CATHOLIC COLLEGE OF ENGINEERING

CHUNKANKADAI-629 807
KANYAKUMARI DISTRICT, TAMIL NADU,INDIA



BRIGITZ
INFOTECHZ

ASSOCIATION OF INFORMATION TECHNOLOGY

ASSOCIATION OF INFORMATION TECHNOLOGY

BRIGHTZ

BRINGS IN

INFOTECHZ



ST.XAVIER'S CATHOLIC COLLEGE OF ENGINEERING

CHUNKANKADAI-629 807

EDITORIAL VOICE

“Success is the good fortune that comes from aspiration, desperation, presperation and inspiration”. Hardwork is the only path for success, so strive to attain it. if you commit yourself to a decision or a way of life, accept it fully or definitely decide to act in that way. Be modest to your words and you shall have a vision forth the world.

“BUILD POSITIVE SELF-ESTEEM”

- Ranjith.D

Editor-in-chief

Front cover page design : **P.S.Rasiya Banu**
(Final IT)

Brains Behind...

Advisor-in-chief

Dr.S.Joseph Sekar

Managing Editor

Mr.R.P.Anto Kumar

Co-ordinator

Mrs.J.Jereesha Mary

Staff Editor

Ms.R.Jemila Rose

Editor in chief

Mr.D.Ranjith(Final IT)

Associative Editors

Mr.R.Sujin (Final IT)

Mr V.Anish kumar (Pre-Final IT)

Student Editors

Ms.R. Deepa (Final IT)

Ms.R.Lincy Liptha (Final IT)

Mr.G.L Beautlin(Pre-Final IT)

Ms.K.S Aswathi(Pre-Final IT)

Mr.Jobin Jose(Second IT)

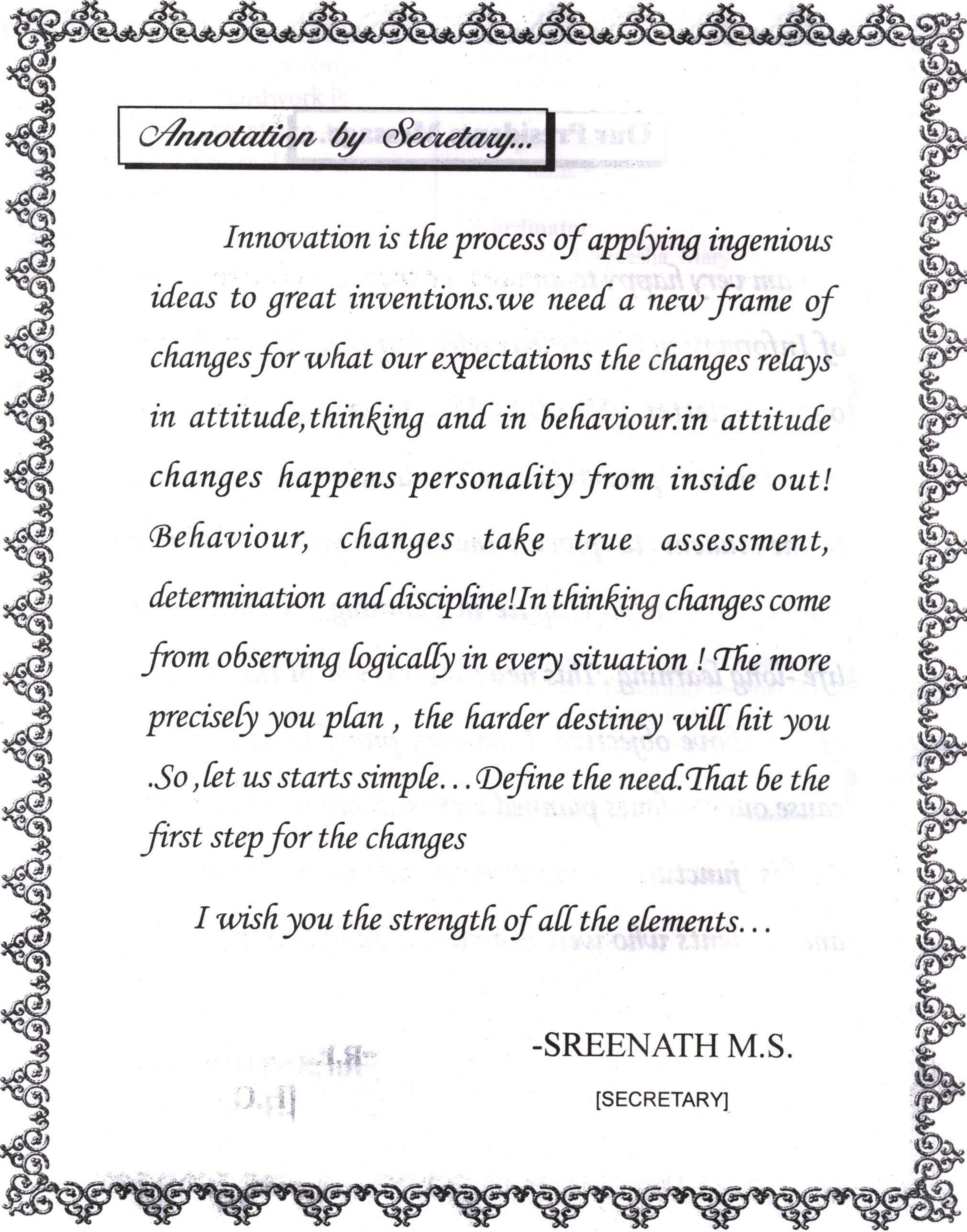
Ms.R.Rofeena(Second IT)



Our Presidents Message...

I am very happy to announce that we, the department of Information Technology releasing the 12th volume of our newsletter INFOTECHZ. As you all know this department is providing excellent academic environment to the student to procure the knowledge and skill that enable them to participate in planning, execution and life-long learning. This newsletter is one of the outcome of the above objective. I am very proud to say this because our students planned and executed it successfully. At this juncture I congratulate and thank all the staff and students who were behind this great endeavor.

-R.P.ANTO KUMAR
[H.O.D]



Annotation by Secretary...

Innovation is the process of applying ingenious ideas to great inventions. we need a new frame of changes for what our expectations the changes relays in attitude, thinking and in behaviour. in attitude changes happens personality from inside out! Behaviour, changes take true assessment, determination and discipline! In thinking changes come from observing logically in every situation ! The more precisely you plan , the harder destiny will hit you .So ,let us starts simple... Define the need. That be the first step for the changes

I wish you the strength of all the elements...

-SREENATH M.S.

[SECRETARY]

INDEX

CONTENTS	PAGE NO.
Association activities	1
A Sampling of EJB	2
Ravi Venkatesan-Microsoft of India	5
IBM	6
The Dangerous Electronic Device	8
Blackberry Devices and Bluetooth	9
World of Robots	10
BING	12
Xenocode Virtualization	13
STUNSTRIKE	15
Web Designing And Multimedia	15
Maximizing Security And Performance for Web Browsing	16

Association Activities

The installation ceremony of BRIGITZ'10 was held on the 29th of July, 2009.

- The new association members were nominated by our H.O.D for the academic year 2009-2010
- A seminar on Time management was conducted by Dr. James R. Daniel for the Final year students on 29-7-2009.
- A seminar on how to land a job was conducted for the final and pre-final year students by Mr. Edison from Ed Serv technologies on 7-8-2009.
- An industrial visit was arranged for the Pre-Final year students to Chennai and Hyderabad from 16th to 20th of September 2009. They visited posmosoft Technologies
- The industrial visit for the Second year students were organised to Ooty from 17th to 19th of September, 2009. They visited Radio Astrology Center in Ooty.
- The study tour for the final year student to north India has been planned for the next semester.
- A national level technical symposium has been planned to be conducted on February.
- An Intra college symposium has been planned to be conducted during the forthcoming semester

Guest Column...

A Sampling of EJB

- **Kenneth Saks, Specification Lead, EJB 3.1,**
Senior Staff Engineer, Sun Microsystems

The latest update to Enterprise JavaBeans (EJB) technology, EJB 3.1, is nearing completion. A Proposed Final Draft of the EJB 3.1 specification is now available. The main goals of this new specification are to further simplify development using EJB technology and to add a number of long-requested features such as singleton beans.

EJB 3.1 will be included in Java Platform, Enterprise Edition (Java EE) 6. A preview version of Java EE 6 is currently available for download. The preview version includes a nearly complete implementation of EJB 3.1 and a sample application that takes advantage of some of the new features in EJB 3.1.

This Tech Tip introduces a few of these exciting new EJB 3.1 capabilities. It also includes instructions on how to run the EJB 3.1 sample application in the Java EE 6 preview.

Ease of Development

EJB 3.1 builds on the ease-of-use enhancements in EJB 3.0 by providing many new ways to improve developer productivity. Chief among these are the ability to implement session beans using only a bean class and the ability to package enterprise bean classes directly in a .war file, without the need for an ejb-jar file.

No-interface View

The EJB 3.0 local client view is based on a plain old java interface (POJI) called a local business interface. A local interface defines the business methods that are exposed to the client and that are implemented on the bean class. Although this separation of interface and imple-

mentation is a well-accepted approach to application design, the separation sometimes is unnecessarily cumbersome and adds little value. This is especially true for very fine-grained components with closely coupled clients that are collocated in the same module.

Developers have asked for a way to get the same enterprise bean functionality without having to write a separate business interface. The EJB 3.1 specification addresses this by making local business interfaces optional. The result is the no-interface local view.

The no-interface view has the same behavior as the EJB 3.0 local view, for example, it supports features such as pass-by-reference calling semantics and transaction and security propagation.

However, a no-interface view does not require a separate interface, that is, all public methods of the bean class are automatically exposed to the caller. By default, any session bean that has an empty implements clause and does not define any other local or remote client views, exposes a no-interface client view.

For example, the following session bean exposes a no-interface view:

```
@Stateless
public class HelloBean {
    public String sayHello() {
        String message = properties Bean.getProperty("hello.message");
        return message;
    }
}
```


As is the case for a local view, the client of a no-interface view always acquires an EJB reference — either through injection or JNDI lookup. The only difference is that the Java type of the EJB reference is the bean class type rather than the type of a local interface. This is shown in the following bean client:

```
@EJB
private HelloBean helloBean; ...
```

```
String msg = helloBean.sayHello();
```

Note that even though there is no interface, the client cannot use the `new()` operator to explicitly instantiate the bean class. That's because all bean invocations are made through a special EJB reference, or proxy, provided by the container. This allows the container to provide all the additional bean services such as pooling, container-managed transactions, and concurrency management.

Simplified Packaging

The EJB specification has always required that enterprise beans be packaged in an enterprise module called an `ejb-jar` file. Since it is common for Java EE web applications to use enterprise beans, this packaging requirement can be burdensome. These applications are forced to use a web application archive (`.war` file) for the web application, an `ejb-jar` file for the enterprise beans, and an enterprise archive (`.ear` file) that encompasses the other packages. This packaging approach is further complicated by the special handling required for any classes or resources that must be shared between the modules.

The EJB 3.1 specification addresses this problem by removing the restriction that enterprise bean classes must be packaged in an `ejb-jar` file. You now have the option of placing EJB classes directly in the `.war` file, using the same packaging guidelines that apply to web

application classes. This means that you can place EJB classes under the `WEB-INF/classes` directory or in a `.jar` file within the `WEB-INF/lib` directory. The EJB deployment descriptor is also optional. If it's needed, you can package it as a `WEB-INF/ejb-jar.xml` file.

New EJB 3.1 Features

Because of the concentrated focus on ease of use in EJB 3.0, there was not enough time to add many of the other features that developers have requested. The EJB 3.1 specification adds a number of these features to the EJB API. Four of the new features are singleton session beans, application initialization/shutdown callbacks, asynchronous session bean invocations, and automatic EJB timers. This section describes singleton session beans and application initialization/shutdown callbacks.

Singletons

A long-standing omission in the EJB API has been the ability to easily share state between multiple instances of an enterprise bean component or between multiple enterprise bean components in the application. By contrast, the Java EE web application programming model has always provided this type of capability through a `ServletConfig` object. In EJB 3.1, this omission has been addressed with the introduction of singleton beans, also known as singletons.

A singleton is a new kind of session bean that is guaranteed to be instantiated once for an application in a particular Java Virtual Machine (JVM)*. A singleton is defined using the `@Singleton` annotation, as shown in the following code example: `@Singleton`

```
public class PropertiesBean {
    private Properties props;
    private int accessCount = 0;
```



```
public String getProperty(String name) { ... }

public int getAccessCount() { ... }
}
```

Because it's just another flavor of session bean, a singleton can define the same local and remote client views as stateless and stateful beans. Clients access singletons in the same way as they access stateless and stateful beans, that is, through an EJB

reference. For example, a client can access the above PropertiesBean singleton as follows:

```
@EJB
private PropertiesBean propsBean;

...

String msg=propsBean.getProperty ("hello.
message");
```

Here, the container ensures that all invocations to all PropertiesBean references in the same JVM are serviced by the same instance of the PropertiesBean. By default, the container enforces the same threading guarantee as for other component types. Specifically, no more than one invocation is allowed to access a particular bean instance at any one time. For singletons, that means blocking any concurrent invocations. However, this is just the default concurrency behavior. There are additional concurrency options that allow more efficient concurrent access to the singleton instance.

Application Startup/Shutdown Callbacks

The introduction of singletons also provides a convenient way for EJB applications to receive callbacks during application initialization or shutdown. By default, the container decides when to instantiate the singleton instance. However, you can force the container to instantiate the singleton instance during application initialization by using the @Startup annotation.

This allows the bean to define a @PostConstruct method that is guaranteed to be called at startup time. In addition, any @PreDestroy method for a singleton is guaranteed to be called when the application is shutting down, regardless of whether the singleton was instantiated using lazy instantiation or eager instantiation. In lazy instantiation, the singleton isn't instantiated until it's method's are first needed. In eager instantiation, the singleton is instantiated at startup time whether or not it gets used.

Here is an example that shows part of a singleton that includes a @Startup annotation as well as @PostConstruct and @PreDestroy methods:

```
@Singleton
@Startup
public class PropertiesBean {

    @PostConstruct
    private void startup() { ... }

    @PreDestroy
    private void shutdown() { ... }

    ...
}
```



*Personality profile..***RAVI VENKATESAN - MICROSOFT INDIA****-Sanjay Soman (Final I.T)**

Ravi Venkatesan, is an alumnus of the Indian Institute of Technology, Bombay, and Purdue University in the United States, joined Microsoft India in 2004. He is responsible for Microsoft's marketing, operational and business development efforts in India.

According to Microsoft India, Mr Venkatesan's role includes, working in partnership with the leaders of Microsoft's other business units, defining the company's relationship with policy makers, customers and business partners across Microsoft's six business units in India.

As chairman of Microsoft India, Ravi Venkatesan clarifies the nature of his key responsibility. His over-all responsibility is business development. He works closely together with Neelam Dhawan, the managing director, who heads the Sales and Marketing Group, Microsoft India. They join hands with government and policy makers and organisations like Nasscom and Ficci to raise awareness about the need for genuine software by launching the Windows Genuine Advantage online, and a single toll free number, 1600 111100 for all customer and partner support in India. They also work with various organisations to suggest ways to strengthen copyright laws and intellectual property rights, and patents for embedded software. India has the laws but it needs to implement them vigorously.

The absence of vigorous enforcement is a major impediment to the growth of Independent Software Vendors in India. Some government departments both at the Centre and in the States, have been considering to use open source operating systems, as opposed to proprietary operating systems like Windows of Microsoft. Mr Ravi Venkatesan feels that in some areas like the computer science departments of universities, open source is quite popular. But in commercial environments, customers usually take into account the cost of ownership, the ease of deployment and use before deciding on which OS or software to use.

Commercial software has the ability to create jobs in India, like it does in developed markets, unlike open-source software which is based more on ideology.

Q1. A distributed network configuration in which all data/information pass through a central computer is

- a. bus network
- b. ring network
- c. star network
- d. point-to-point network
- e. none of the above

Q2. The most flexibility in how devices are wired together is provided by

- a. bus networks
- b. star networks
- c. ring networks
- d. T-switched networks
- e. none of the above

Q3. The communication mode that supports two-way traffic but only one direction at a time is

- a. simplex
- b. half duplex
- c. duplex
- d. multiplex
- e. none of the above

Q4. A central Computer surrounded by one or more satellite computers is called a

- a. bus network
- b. ring network
- c. star network
- d. all of the above
- e. none of the above

Answers:

- 1. c
- 2. a
- 3. b
- 4. c

Company profile...**IBM****- R.Deepa (Final I.T)**

International Business Machines Corporation, abbreviated **IBM** and nicknamed "**Big Blue**" is a multinational computer technology and IT consulting corporation headquartered in Armonk, New York, United States. The company is one of the few information technology companies with a continuous history dating back to the 19th century. IBM manufactures and sells computer hardware and software and offers infrastructure services, hosting services, and consulting services in areas ranging from mainframe computers to nanotechnology.

IBM has been well known through most of its recent history as the world's largest computer company and systems integrator. With over 388,000 employees worldwide, IBM is the largest and most profitable information technology employer in the world. IBM holds more patents than any other U.S. based technology company and has eight research laboratories worldwide. The company has scientists, engineers, consultants, and sales professionals in over 170 countries. IBM employees have earned three Nobel Prizes, four Turing Awards, five National Medals of Technology, and five National Medals of Science. As a chip maker, IBM has been among the Worldwide Top 20 Semiconductor Sales Leaders in past years.

The company which became IBM was founded in 1896 as the Tabulating Machine Company^[7] by Herman Hollerith, in Broome County, New York (Endicott, New York or Binghamton, New York), where it still maintains very limited operations.

It was incorporated as Computing Tabulating Recording Corporation (CTR) on June 16, 1911, and was listed on the New York Stock Exchange in 1916 by George Winthrop Fairchild. CTR's Canadian and later South American subsidiary was named International Business Machines in 1917, and the whole com-

pany took this name in 1924 when took control. developerWorks is a website run by IBM for software developers and IT professionals. It contains a small number of how-to articles and tutorials, as well as software downloads and code samples, discussion forums, podcasts, blogs, wikis, and other resources for developers and technical professionals. Subjects range from open, industry-standard technologies like Java, Linux, SOA and web services, web development, Ajax, PHP, and XML to IBM's products (WebSphere, Rational, Lotus, Tivoli and DB2)

In 2007 developerWorks was inducted into the Jolt Hall of Fame. IBM, hospital develop 3D patient record software (Thursday, 12 Mar, 2009).

During the holocaust, IBM's New York headquarters and CEO Thomas J. Watson acted through its overseas subsidiaries to provide the Third Reich with punch card machines that could help the Nazis track down the European Jewry

IBM's efforts to promote workforce diversity and equal opportunity date back at least to World War I, when the company hired disabled veterans. IBM was the only technology company ranked in *Working Mother* magazine's Top 10 for 2004, and one of two technology companies in 2005 (the other company being Hewlett-Packard).

On September 21, 1953, Thomas J. Watson, the CEO at the time, sent out a controversial letter to all IBM employees stating that IBM needed to hire the best people, regardless of their race, ethnic origin, or gender. In 1984, IBM added sexual preference. He stated that this would give IBM a competitive advantage because IBM would then be able to hire talented people its competitors would turn down.

The company has traditionally resisted labor union organizing, although unions repre-

sent some IBM workers outside the United States.

In the 1990s, two major pension program changes, including a conversion to a cash balance plan, resulted in an employee class action lawsuit alleging age discrimination. IBM employees won the lawsuit and arrived at a partial settlement, although appeals are still underway. IBM also settled a major overtime class-action lawsuit in 2006.

Historically, IBM has had a good reputation of long-term staff retention with few large scale layoffs. Recently, there have been a number of broad cuts to the workforce as IBM attempts to adapt to changing market conditions and declining profits. After posting weaker than expected revenues in the first quarter of 2005, IBM eliminated 14,500 positions, predominantly in Europe

In May 2005, IBM Ireland announced that the MD (Micro-electronics Division) facility was closing down by the end of the year and offered a settlement to staff. However, all staff that wished to stay with the Company were re-deployed within IBM Ireland

The production moved to a company called Amkor in Singapore who purchased IBM's Microelectronics business in Singapore and is widely agreed that IBM promised this Company a full load capacity in return for the purchase of the facility.

On June 8, 2005, IBM Canada Ltd. eliminated approximately 700 positions. IBM projects the moves as part of a strategy to "re-balance" its portfolio of professional skills and businesses. IBM India and other IBM offices in China, the Philippines and Costa Rica have been witnessing a recruitment boom and steady growth in number of employees due to lower wages.

On October 10, 2005, IBM became the first major company in the world to formally com-

mit to not using genetic information in employment decisions. The announcement came just a few months after IBM stated its support of the National Geographic Society's Genographic Project.

Brain Twisters

1. You are given two candles of equal size, which can burn 1 hour each. You have to measure 90 minutes with these candles. (There is no scale or clock). Also u r given a lighter.

Ans: 1. First light up the two ends of the 1st candle. When it will burn out light up one end of the second candle. ($30+60=90$)

2. Try the similar problem to measure 45 minutes.

Ans: First light-up the two ends of the 1st candle and one end of the 2nd candle When the 1st candle will burn out ,then light up the both ends of the 2nd candle ($15+30=45$)

3. How can u measure a room height using a thermometer?

Ans: temp varies with height. but its dependent on various other factors like humidity, wind etc.

4. Can u make 120 with 5 zeros?

Ans: Factorial (factorial (0)+factorial (0)+factorial (0)+factorial (0)+factorial (0)) = 120

5. U r a landscape designer and your boss asked u to design a landscape such that you should place 4 trees equidistance from each other. (Distance from each tree to the other must be same)

Ans: Only 3 points can be equidistant from each other. But if u place points in the shape of a pyramid then its possible

6. How will you recognize the magnet & magnetic material & non-magnetic material?

Ans: Drag one piece of material over another. There is no attractive force in the middle portion of the magnet.

Staff Column....**THE DANGEROUS ELECTRONIC DEVICE****- N.R. Wilfred Blessing**

Lecturer, Dept. of I.T, SXCCE

Four-inches long, two-inches wide, a handheld device. Could you guess that device? Yes, it's the cell phone.

Using a cell phone, a person can contact any one at any part of the world within seconds. But, there are some harms occurred from cell phone radiations, especially, the health hazards caused by the cell phone. Let's see the various health hazards caused by the cell phone and some remedies to control it.

Kills the brain!

Do you know the problems caused in our body due to exposure to radiation?

- Increased hair fall and inflammation of skin.
- Destruction of the neurons and small blood vessels in the brain, which becomes fatal, at times.
- Certain types of radiation affect the thyroid gland, especially radiation from iodine, which affects a part of brain.
- Decreases the Lymphocytes in the blood which may result in Leukemia or Lymphoma (Blood Cancer).
- It affects the blood vessels which prevents the normal functioning of heart.
- Results in vomiting with blood or improper digestion, in case the radiation affects the digestive system.
- Causes sterility when exposed for a long period.
- Results in dermal or skin cancer.

Don't chat a lot....!

Some ideas to escape from radiation caused due to cell phones.

- Cell phone emits more radiation at the time of switching on or switching-off or when you make a call or when the cell phone beeps. At those situations, keep away from the cell phone.

- Never wait, placing the cell phone near your ears until the receiver attends your call. It's better to use a hand-free device.
- Talk less.
- While sending sms, keep the cell phone, a little apart from your body.
- Keep the cell phone inside a hand bag or suitcase. Never place it in your shirt pocket or near children.
- Pregnant ladies and kids are not supposed to use.
- Never charge your cell phone in your bedroom, at night. It may emit a lot of electro-magnetic radiation while getting charged.
- Avoid hearing songs using cell phones.

These are all the recommendations provided by the Norton Institute of Cancer Research.

Ranking precarious devices....

1. Cell phone
2. Microwave Oven
3. Computer
4. Cordless phones
5. Electric Cooker
6. T.V
7. Electronic hair dressing & shaving devices
8. Electric lights
9. Electric Nets
10. Electronic Clocks

Note that, cell phone ranks first in the list of dangerous house hold utilities. So be aware of the dangerous handphone and give awareness to others ...

BLACKBERRY DEVICES AND BLUETOOTH TECHNOLOGY

-A.Dollar Sebasti Brinda (Final IT)

The **Blackberry Enterprise Solution** is designed to encrypt data in transit at all points between the Blackberry device and the Blackberry Enterprise Server to protect your organization from data loss or alteration. Only the Blackberry Enterprise Server and the Blackberry device can access the data that they send between them. If events that threaten the wireless Security of your organization occur, third parties, including wireless service providers, cannot access your organization's potentially sensitive information in a decrypted format

Bluetooth technology

Bluetooth technology is a standard for short-range wireless technology. It enables two devices to communicate using radio waves that operate at 2.4 GHz. A Blackberry device that uses Bluetooth technology can open a wireless connection with

Other Bluetooth enabled devices, such as hands-free car kits or headsets that are within a 10 m range.

Risks of using Bluetooth technology on wireless devices

The wireless industry considers that Bluetooth enabled devices have the following potential areas of vulnerability

- Users with malicious intent can obtain confidential data from Bluetooth enabled devices without the knowledge or consent of the authorized users.
- A previously trusted (or paired) source that has been removed from the Trusted list can access the memory contents of some Bluetooth enabled devices.
- Users with malicious intent can gain access to higher-level commands and to voice, data, and messaging channels.

Security threats to Bluetooth wireless technology can be user based or device based.

Blue jacking

Blue jacking is a user-based threat that occurs when users with malicious intent send text messages anonymously to Bluetooth enabled devices that are set to use discoverable mode and are physi

located within 10 m of the attacking devices. Users with malicious intent can target individuals or they can broadcast anonymous messages to all discoverable devices in the area. Bluetooth enabled phones, personal device assistants, and laptops can search for other devices within a short range, so users with malicious intent who are located in crowded public areas can send anonymous messages easily and without detection.

Bluesnarfing

Bluesnarfing is a device-based threat that occurs when device manufacturers implement the specification for Bluetooth technology incorrectly, allowing users with malicious intent to use Bluetooth technology to connect to devices without notifying the authorized users, and access device information without the knowledge or consent of the authorized users

Managing Bluetooth enabled Blackberry devices

Using Blackberry Enterprise Server version 4.0 or later, you can set IT policy rules that are designed to control the behavior of Bluetooth enabled Blackberry devices.

Following actions on their Blackberry devices:

- opening a Bluetooth connection with another Bluetooth enabled Blackberry device, another Bluetooth enabled device, or the Blackberry Desktop Software
- turning on the discoverable mode option
- setting the discoverable mode option to have no time limit

- using the Bluetooth profiles that the Blackberry devices support
 - using wireless bypass over a Bluetooth connection
 - exchanging files with supported Bluetooth OBEX devices
 - sending or receiving address book information over a Bluetooth connection
- IT policy rules that control Bluetooth technology on Blackberry devices

The Blackberry Manager lists all of the IT policy rules for managing Bluetooth® technology on Blackberry devices in the Bluetooth policy group making calls over a Bluetooth connection

The list of IT Policy Rules are,

- ◆ *Require Password for Discoverable Mode IT policy rule*
- ◆ *Allow Outgoing Calls IT policy rule*
- ◆ *Disable Advanced Audio Distribution Profile IT policy rule*
- ◆ *Disable Dial-Up Networking IT policy rule*
- ◆ *Disable File Transfer IT policy rule*
- ◆ *Disable Address Book Transfer IT policy rule*
- ◆ *Disable Audio/Video Remote Control Profile IT policy rule*
- ◆ *Disable Wireless Bypass IT policy rule*

Educating users about how to protect their Bluetooth enabled Blackberry devices

To help users protect their devices against Bluetooth based attacks, instruct them to perform the following actions:

- Leave the Discoverable option on the Blackberry device set to No.
- If the Discoverable option on the Blackberry device is set to Yes, deny requests to pair with unknown Bluetooth enabled Devices.

WORLD OF ROBOTS

- R.Subaja (Final IT)

Introduction

The United Nations Economic Commission for Europe estimated that in the year 2002, there will be 800,000 operating industrial robots. Nearly 500,000 vacuum cleaning robots are expected to be installed in offices, public areas and homes by the same year. Based on the sales figures of toy robots like AIBO built by Sony Corp. or Mind Storms built by Lego, it is expected that entertainment robots will become one of the real frontiers for the next decade. These are only some of the robot applications with market potential in this decade. To understand the application potential and the future trends in the field of robotics we have to look into more details to the latest technological improvement

Industrial Robots:

The 'intelligence' of systems or components increased over the last decade too, as reasoning and decision making methods were developed by the artificial intelligence or computational intelligence research communities and became state-of-the art technologies. These technologies enabled the design of 'intelligent sensors', 'intelligent actuators', 'intelligent planners' or 'intelligent decision making units', which on their turn became subsystems of more complex

Intelligent robots'. The improvement in areas like speech recognition, gesture recognition, image processing in general enabled the robots to become more 'human-like' in their communication interface with humans. These features increased their acceptance level outside the research labs, becoming museum guides, mobile information centres, etc.

The latest trends in 'robotic intelligence' are towards imitating life. Biomimetic robots, evolutionary robots, emotion controlled robots are just some new research ideas. Although these

approaches are very different in their nature all have a common goal, to improve the adaptivity and learning capabilities of robots, 'breeding' a new generation of robots with better 'survival' chances in their specific operational environment. Another area of technological challenge for the next decade is the development of micro robots and Nanorobots for medical applications. Here we are just at the beginning of a long journey. Robots cleaning clogged blood vessels or repairing damaged tissues are still to be developed. But still the biggest challenge in robotics for the next decade will be to find the proper balance between human-assisted systems and fully autonomous ones, thus to combine technological capabilities with social expectation and requirements.

SCARA ROBOT:

The **SCARA** acronym stands for **Selective Compliant Assembly Robot Arm** or **Selective Compliant Articulated Robot Arm**.

In 1981, Sankyo Seiki, Pentel and NEC presented a completely new concept for assembly robots. The robot was developed under the guidance of Hiroshi Makino, the University of Yamanashi. The robot was called Selective Compliance Assembly Robot Arm, SCARA. Its arm was rigid in the Z-axis and pliable in the XY-axes, which allowed it to adapt to holes in the XY-axes.

By virtue of the SCARA's parallel-axis joint layout, the arm is slightly compliant in the X-Y direction but rigid in the 'Z' direction, hence the term: Selective Compliant. This is advantageous for many types of assembly operations, i.e., inserting a round pin in a round hole without binding.

Autonomous robots:

Autonomous robots are robots which can perform desired tasks in unstructured environments without continuous human guidance. Many kinds of robots have some degree of autonomy. Different robots can be autonomous in different ways. A high degree of autonomy is

particularly desirable in fields such as space exploration, cleaning floors, mowing lawns, and waste water treatment.

A fully autonomous robot has the ability to

- Gain information about the environment.
- Work for an extended period without human intervention.
- Move either all or part of itself throughout its operating environment without human assistance.
- Avoid situations that are harmful to people, property, or itself unless those are part of its design specifications.

An autonomous robot may also learn or gain new capabilities like adjusting strategies for accomplishing its task(s) or adapting to changing surroundings.

Autonomous robots still require regular maintenance, as do other machines.

Penguin robot:

The **Penguin Robot** is a bipedal robot with two directions of freedom, using two servos for walking. It is a precision-machined 4" tall biped with an embedded BASIC Stamp 2px24 microcontroller. The Penguin walks forward with a tilt-stride action and turns by sweeping both feet on the ground in opposite directions.



BING

- Aswathy (Pre Final IT)

Bing is a new search engine designed to do more than merely help you find information. Bing organizes search results and provides refinement tools that help you overcome information overload, get things done and quickly bring you to the point of using that information to make an informed decision.

In Chinese, it means a certain answer, or response to a query. It is also short, easy to spell and say and more attractive than livesearch. and so Bing was born.

The current state of Internet search leaves much to be desired. According to a Microsoft-commissioned survey by Harris Interactive Inc., half of attempted search queries fail to meet consumer needs, and nearly three-quarters of people consider search results too disorganized. Armed with this knowledge, set out to create a new type of search experience with improvements in three key areas:

- Delivering great search results and one-click access to relevant information.
- Creating a more organized search experience.
- Simplifying tasks and providing tools that enable insight about key decisions.

Microsoft also found that 66 percent of consumers are more focused on using the Internet to get things done, rather than to simply find information. Therefore, Bing was created much more than an Internet search engine. Instead, they focused on what is essentially an Internet decision engine that will help you navigate through the rampant excess of information and find the shorstdistance to an informed decision. Touted as a new Decision Engine and consumer brand, Bing is designed to provide

customers with a first step in moving beyond search to help make faster, more informed decisions.

Bing is specifically designed to build on the benefits of today's search engines but begins to move beyond this experience with a new approach to user experience and intuitive tools to help customers make better decisions, focusing initially on four key vertical areasmaking a purchase decision – “Bing Shopping,” planning a trip – “Bing Travel,” researching a health condition – “Bing Health,” or finding a Bing is an important first step forward innovations in search that enable people to find information innovations in search that enable people to find information inginnovations in search that enable people to find information long-term effort to deliver local business – “Bing Local.

quickly and use the information they've found to accomplish tasks and make smart decisions. This new service, built to go beyond today's search

Great search results:

Relevant search results are a top priority for people. Bing helps identify relevant search results through features such as Best Match, where the best answer is surfaced and called out; Deep Links, allowing more insight into what resources a particular site has to offer; and Quick Preview, a hover-over window that expands over a search result caption to provide a better sense of the related site's relevancy. Bing also includes one-click access to information through Instant Answers, designed to provide the sought-after information within the body of the search results page, minimizing the need for additional clicks.

Organized search experience: More and more customers are regularly spending time with search engines, engaging in complex, multi-query and multi-session searches. Bing includes a number of features that organize search results, including Explore Pane, a dynamically relevant set of navigation and search tools on the left side of the page; Web Groups, which groups results in intuitive ways both on the Explore Pane and in the actual results; and Related Searches and Quick Tabs, which is essentially a table of contents for different categories of search results. Collectively, these and other features in Bing help people navigate their search results, cut through the clutter of search overload and get right down to making important decisions.

Simplify tasks and provide insight: Microsoft's research identified shopping, travel, local business and information, and health-related research as areas in which people wanted more assistance in making key decisions. The current state of Internet search isn't optimized for these tasks, but the Bing Decision Engine is optimized for these key customer scenarios. For example, while a consumer is using Bing to shop online, the Sentiment Extraction feature scours the Internet for user opinions and expert reviews to help leverage the community of customers as well as product experts in trying to make a buying decision. In Bing Travel, the Rate Key compares the location, price and amenities of multiple hotels and provides a color-coded key of the best values, and the Price Predictor actually helps consumers decide when to buy an airline ticket in order to get the lowest prices.

Bing is an important first step toward this long-term vision and a strong indicator of Microsoft's commitment to move search technology forward customers

Xenocode Virtualization

- Aloys Divya (Pre Final IT)

Xenocode application virtualization technology allows complex applications to be deployed in lightweight, pre-configured virtual executables that run instantly, anywhere. Xenocode virtualized applications require no setup, configuration, client, or device drivers, are isolated from external DLL and dependency conflicts, and run properly on locked-down desktops

What is Xenocode virtualization?

Unlike hardware virtualization solutions such as VMware and Virtual PC, which emulate the underlying hardware and therefore require an entire copy of the host operating system, Xenocode application virtualization technology emulates operating system features required for application execution. As a result, Xenocode-virtualized applications have essentially the same performance characteristics as native executables, allowing for easy deployment on corporate Intranets, the web, USB keys, or existing infrastructure such as Microsoft SMS, LANDesk, Altiris, ZENWorks, Unicenter, or AppStream.

Xenocode application virtualization technology allows IT administrators, system integrators, and software publishers to dramatically reduce the costs and complexity associated with development, setup, configuration, deployment, and maintenance of software applications, and to deploy legacy applications on Windows Vista.

The Xenocode Virtual Operating System

The core of Xenocode virtualization technology is the Xenocode Virtual Operating System. The Xenocode Virtual OS kernel is a lightweight implementation of core Windows operating system APIs, including the filesystem,

registry, process, and threading subsystems, completely implemented within the Windows user-mode space. The Xenocode Virtual OS kernel is embedded within each virtualized application executable, allowing virtual applications to be executed without any separate client install, device drivers, or player software.

Applications executing within the Xenocode Virtual OS environment interact with a virtualized filesystem, registry, and process environment, rather than directly with the host device operating system. The virtualization engine handles requests within the virtualized environment internally or, when appropriate, routes requests to the host device filesystem and registry, possibly redirecting or overriding requests as determined by the virtual application configuration:

The Xenocode engine supports both merge and override virtualization semantics, down to individual file and folder granularity. This allows virtual operating system contents to be either entirely isolated from or merged with corresponding locations on the host device. The Xenocode virtualization engine dynamically remaps shell folder locations such as My Documents so that proper application behavior is preserved across different operating system versions and deployment structures.

The Xenocode Virtual OS kernel occupies roughly 400K of disk space uncompressed, with negligible runtime performance overhead. And, because Xenocode transparently compresses all virtual environment data, virtual applications typically consume only half as much disk space as the same application installed directly on the host device.

Comprehensive operating system feature support

Xenocode virtual applications support customization of shell metadata in executables, including customized icons, publisher descrip-

tions, and versions. The Xenocode Virtual OS kernel dynamically remaps shell folders (for instance, the My Documents and Application Data folders) to the appropriate location on each host device. Similarly, registry key values containing explicit path names or prefixes are dynamically remapped to the appropriate values for the executing host device.

Xenocode also fully supports Windows side-by-side (SxS) deployment manifests, should you have applications that use this isolation technology. As an added benefit, virtual applications containing SxS assemblies execute properly on Windows 2000, even though SxS was not implemented in this version of the Windows operating system.

Supported platforms and technologies

The Xenocode Virtual Operating System kernel supports the Windows XP, Windows 2000, 2003, 2008 and later, Windows Server, and Windows Vista operating systems. Virtual Application Studio creates 32-bit executables, which can be run under 32-bit mode on x64 platforms. Xenocode supports common runtime environments such as the .NET Framework 1.1, 2.0, 3.0, and 3.5, Silverlight, Java 5.0 and 6.0, Flash, and Shockwave

To simplify runtime and component setup, the Xenocode Virtual Application Studio and Postbuild authoring environments provide one-click configuration of popular runtimes and components

CHIP SIZE CAMERA

Chip size camera is particularly used for US army insect-sized robo planes. It is very small in size and also in less weight so it is used to carry with those planes to view a spy-cop. It also includes the radio-wave frequency hoping communication within a helicopter away.

STUNSTRIKE

- **Shefrin Shilfenna** (Pre Final IT)

The StunStrike is a wireless electroshock weapon developed by XADS (Extreme Alternative Defense Systems) that is based on an artificial lightning technology. It is available in various sizes from rifle size upwards, with various ranges. It is intended to incapacitate men and pre-detonate IEDs (Improvised Explosive Device) and incoming RPGs (Rocket Propelled Grenade).

The StunStrike system is programmable. Therefore, when fielded, the system can be tuned to ensure maximum safety or rapid response according to requirements

One reported version of StunStrike is a directed-energy weapon which makes a cone-shaped field of powerful electric discharges in one direction. These discharges were incorrectly referred to as static electricity by the television show Future Weapons, which featured the StunStrike's briefcase model on The Discovery Channel. The device is a black box designed to look like a briefcase or small suitcase, intended to deny passage through a door (when placed beside it), or to stun or scare an opponent

Three StunStrike products have been developed so far

1. A Briefcase-sized unit:

The Briefcase unit operates at a range of about 2 feet (0.7 meter) used for corridor/doorway security. The unit can be mounted on the ceiling or above a door, activated by remote control or movement detection.

2. A Close Quarters (CQ) Rifle:

The CQ Rifle is designed to be effective at ranges of 10 - 12 feet (up to 4 meters).

3. A Short Range Perimeter system:

The SR unit is a perimeter security system with a range of up to 25 feet (8 meters), designed to defend things like embassies, etc.

In spite of various hoaxes before its public demonstration that the weapon was a phony, in 2008, XADS was awarded a contract worth \$1,100,000 to deliver 20 of its smaller StunStrike Counter-IED systems to NSWC Crane

WEB DESIGNING AND MULTIMEDIA

- **Sharmi** (Pre Final IT)

Web site design and Multimedia Web Design- how well should they fit together? The service of web design is all about conveying a message. Big amounts of Multimedia Web Design take time to load. Does anyone enjoy sitting and watching a little load bar travel across the area to be 'Multimedia web Design' on a web page only to find that it was not worth waiting for in the first place? Remember too many people do not have high speed internet, this seems to come as a surprise to some web document

The progression to Multimedia **web Design**. technology is a natural one. The web began with low bandwidth carrying text only. Later the .gif was introduced and graphics leaped onto the web. Next were animated gif and rollovers. The latest stats show that The Multimedia web Design player is installed on 97.6 % of browsers, which is about as much market penetration as you could hope for.

Since Multimedia web Design is here to stay and will continue to grow, what should you be doing with it? You begin by first realizing that regardless of the glamour and glitz that Multimedia web Design provides to a web site, it is and should always primarily be, for a business web site, Multimedia web Design is a tool to communicate.

Too many people run out and have a designer create a Multimedia web Design intro thinking that the sheer novelty and creativity of Multimedia web Design is going to bring sales. Nothing could be further from the truth.

Absolutely, many sites have reported 150% increases in traffic overnight after creating a Multimedia Web Design site, but does increase

traffic translate into increase sales? NO. Increased Targeted traffic with the help of Multimedia Web Design translates into increased sales. Let us move on to three great ways in which you Can use Multimedia web Design to your advantage.

An intro/tour Multimedia Web Design movie that clearly communicates what the site is going to be about. It should be like an audio/visual tagline. A good tagline in Multimedia Web Design not only grabs the visitor's attention but also expresses the nature of the product or service. It gives you something to hang your mental hat on. The mind is then prepared to receive the rest of the message using Multimedia web Design. Always be sure to include a 'skip intro' link for return visitors in multimedia web designing Macromedia Multimedia web Design content for the Web is encapsulated in an open file specification (SWF) and generated by proprietary authoring software such as Macromedia Multimedia web Design MX, Adobe Livemotion, Swift3d and Swish.

To handle SWF content, browsers require the free Macromedia Multimedia Player. The SWF file format is non-native to browsers. That is, the graphical browsers we use, such as Mozilla, Safari, Opera and Internet Explorer cannot run SWF files on their own, as they can HTML, XML, GIF, JPG and PNG files. Macromedia Multimedia Player handles the Shockwave (SWF) and FutureSplash (SPL) file formats (FutureSplash was the precursor to Shockwave Multimedia web Design).

Multimedia Player 3 was the first to have significant impact in the market, dot syntax was introduced in Multimedia Player 5, and the current Player, version 6, has the highest uptake rate of any Player released to date. Multimedia Player has been a standard third party plugin for Web browsers since the late 1990s.

MAXIMIZING SECURITY AND PERFORMANCE FOR WEB BROWSING

- J. Melfa (Final IT)

The 21st century has seen a rapid acceleration in the evolution of new threats to organizations, both in the velocity of change and the increased malice of intent. Five years ago most threats were viruses and worms designed primarily to disrupt networks and crash computers. In the last year or so there has been a significant change in motivation – and therefore method – towards deliberate, focused Attacks, designed specifically to make money for the perpetrators.

The exploitation of the web

Many organizations have no defenses beyond their network firewall for inspecting web traffic. Writers of malicious code capitalize on the often overlooked and inadequate web security within corporate networks. The objectives of malware writers are to steal confidential information or to establish botnets – networks of hijacked computers, or zombies that are used to propagate spy ware, viruses, spam and other threats. Infection is easy – malicious code can be downloaded and installed without any visible clue, simply by visiting a website. Potentially unwanted applications, such as ad ware and peer-to-peer programs, particularly popular and dangerous tools of the trade, are often used to

Install malware surreptitiously

The diversity of threat

These web-based threats pose significant security and productivity challenges, including system infection, legal liability and breaches in corporate or regulatory compliance rules. Table 1 shows the different types of threat and how they can compromise an organization

Theoretically, the threats can be classified ed into three types:

- **Conduct** – e.g. malicious websites and Unwanted applications
- **Category** – inappropriate content
- **Code** – malicious code such as spy ware and Viruses

Defense strategies for the expanding threat

The desktop is traditionally seen as the main battlefield in the fight against spy ware, viruses and other malware. However, relying on desktop defenses puts a heavy load on local resources and ignores the impact that these threats can have on network bandwidth if desktop defenses fail. For optimal security, businesses should install defenses at both the gateway and the endpoint, stopping threats before they enter the network and scanning desktops for threats that enter via other means (visiting laptops, PDA's, USB drives, etc). This approach has proven highly effective for email based threats, and is equally effective for threats circulating on the web.

Current web technology at the Gateway

To be effective, a web security solution must address both the threats that users will encounter, and the need for fast, efficient web browsing. Essentially, the solution should provide a unified policy framework for blocking dangerous content, scanning potentially dangerous and unwanted content and optimizing the performance and availability of trusted content. There are currently two predominant approaches to web security: URL filtering and anti-virus scanning

URL Filtering

URL filtering is carried out where productivity is the overriding concern. It relies on complex and resource-intensive categorizing of websites according to their content, and then providing black-and-white policy rules for each category, controlling where employees go on the web and blocking or limiting their access to undesirable content. While the solution itself is high-performance in terms of speed, there are considerable security risks since content from an allowed site would not get scanned. In an attempt to achieve tighter security, administrators either end up over-blocking content, generating high false positives and requiring constant, management intensive tweaking of allow lists, or give up and take their chances with security. According to Gartner, incumbent URL filtering vendors "have considerable gaps to fill in their strategy and product road maps before they can meet

enterprise requirements for broader gateway malicious code protection".

A checklist for effective web security

What can businesses do to block this increasingly exploited vulnerability? And what should they be looking to implement? As discussed above, a robust, useable web security solution should comprise. A URL filter to enforce an acceptable use policy. A fast content scanner to protect against threats – like spy ware, viruses, exploits, malicious code, and unwanted applications

A policy framework that makes it easy to combine URL filtering and scanning for threats. There is also a need for easy administrative tools for policy management and reporting, along with a confidence that the vendor will deploy up-to-date protection against any new threat instantly and reliably. The current patchwork of solutions that is available

The Sophos solution

Sophos's broad visibility into the threat Environment and our experience and expertise mean that our Web Security Appliances provide safe and efficient web browsing, with rapid, up-to-date protection and scanning for the full spectrum of web-based threats. Sophos Web Security Appliances offer integrated, enterprise grade protection delivered on a managed hardware platform. Like all our products, they are powered by SophosLab and backed by round-the-clock, global support. Scanning all HTTP and FTP via HTTP traffic, validating HTTPS certificates, blocking unwanted URLs and incorporating a built-in proxy and cache, Sophos Web Security Appliances provide a comprehensive solution that is easy to deploy and manage.

Anti-virus scanning

The other approach, anti-virus scanning, is based on scanning of web content regardless of site category and is positioned as a better security solution than URL filtering. While this is undoubtedly true, anti-virus scanning solutions tend to lead to over-scanning of content, slowing network performance and negatively impacting the end-user experience. Like the URL filtering solutions, they require aggressive, time-consuming management.

9787372786



Aashi

MAIN ROAD CHUNKANKADAI

XEROX - 30ps

INTERNET DTP SPIRALBINDING



Best Wishes.



Software Technology Group

Computer Education and Project Development Centre

82, Kalluveetil Teenu Centre

Court Road, Nagercoil - 1

Phone No.: 04652 - 233435, 403020



 **உதயா ஹார்டுவேர்ஸ்**

UDAYA HARDWARES

திங்கள் நகர், மார்க்காண்டம், நாகர்கோவில்

Ph: 222298, 270348, 234298



Crompton Greaves Compressor Pumps,

Ideal Jet & Monoblock Pumps,

Electric Motors, 'U' Brand

G.I. Fittings, Hycount, Selson, Star

P.V.C Pipes, Star P.V.C. Fittings,

Venus Water Heater, Johnson Tiles,

Marbonites, Nice Floor Tiles,

Shagun Wall Tiles, Durocon Designer

Tiles, Sintex Water Tanks & P.V.C. Door,

Parryware Sanitarywares & Bath Fittings,

Mowjee Hinges, Gowri Sankar Screws,

Dutron Kanaflex Hoses,

Bosch Power Tools, Malabar AC Sheets,

Agni Steels, Sankar Cements

& all kinds of Building Materials




Marbonite
Preferred over Italian Marble, worldwide

Parryware®