

TELECOM BUZZ

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NEWS

USABILITY EXPERT

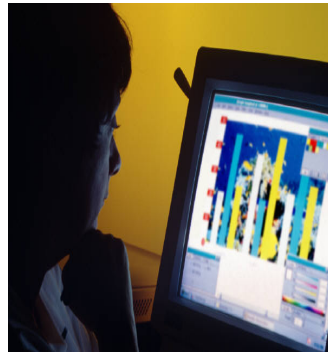
The Telecommunications Club is proud to Co-sponsor guest speaker Joanne Bawa a usability expert, she will give a presentation on the 19th of April, 2005 at 12:00 PM.

Joanna Bawa is a human factors psychologist and writer, specializing in the interaction of people with an increasingly technological working environment. Her work is concerned with the development, not only of technology products, but with the development, evaluation and communication of entire systems which support complex human, rather than business, needs.

She began her career as a human factors engineer with British Telecom, studying the way in which we learn to interpret icons and how best to present complex information in a simple way. This led to a spell as a professional technical communicator, before joining the launch team of PC Magazine UK in 1992 with specific responsibility

for developing a usability testing methodology which could produce meaningful comparisons between competing technology products. The resulting usability lab and comparative test methodology proved both effective and popular with developers and readers, and Joanna's work was extended to similar magazines across Europe (PC Professional; PC Expert) and the USA (PC Computing).

Joanna now works as an independent human factors consultant and technical writer, exploring the issues which are becoming increasingly important as technology becomes a greater part of our lives.



OPTICAL CONFERENCE

Optical Fiber Conference/National Fiber Optical Engineering Conference This year was the first year where OFC and NFOEC merged into one conference. The main focus of this show was fiber access where according to show management "nearly 20 individual presentations, sessions, and workshops" were focused towards fiber access networks. The total number of exhibitors were 650 and no attendance numbers were available as of yet.

MCI NETWORK

MCI announced on March 9th, it has deployed Ultra Long Haul (ULH) network technology on 3,129 route miles of its network, a key milestone in its ULH Dense Wavelength Division Multiplexing (DWDM) network expansion strategy. These networks will link New York City to Cleveland, Chicago to Denver via Omaha, and Salt Lake City to

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VIRUS ALERTS

- W32.Kelvir.G
- W32.Elitper.D@mm
- VBS.Scafene@mm
- W32.Mytob.F@mm
- PWSteal.Secucent
- W32.Kelvir.F
- Trojan.Adwareloader
- Trojan.StartPage.L
- W32.Serflog.C
- W32.Zori.A
- W32.Kelvir.A

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FIBER OPTICS NEWS

“THE NETWORK WILL ENABLE OC-768 CAPACITY, WHICH WILL SUPPORT EMERGING HIGH-BANDWIDTH DATA APPLICATIONS .”

MCI

Los Angeles via Sacramento and provide needed bandwidth for applications such as web services, grid computing, wavelength services and storage networking. The network will enable OC-768 capacity, which will support emerging high-bandwidth data applications as well as on-demand customer capacity upgrades. At the completion of the project, there will be a total of 32,000 miles of ultra long haul technology installed.

PIONEER CONSULTING

Pioneer Consulting announced that the oversupply of fiber in the Transpacific and Asia-Pacific submarine cable market is decreasing. The new rollout of additional transpacific submarine fiber should be in the 2005-2006 timeframe. Pioneer Consulting states that "Capacity demand continues to grow in the region, and certain routes will require additional capacity before the region as a whole goes deficit in 2009."

“CAPACITY DEMAND CONTINUES TO GROW IN THE REGION, AND CERTAIN ROUTES WILL REQUIRE ADDITIONAL CAPACITY”

DWDM VS CWDM

Wavelength Division Multiplexing (WDM) is the process of using channels (wavelengths) to carry multiple signals on a single fiber. The development of this technology has found its niche in metro area networks (MANs). Currently it is available in two flavors: coarse WDM (CWDM) and dense WDM (DWDM). The major difference between the two is the spacing between the channels. CWDM systems provide cost advantages over DWDM in the same application. As such, many people tout CWDM as a more appropriate platform for the shorter distances typically found in metro area networks.

fiber cables are more available and typically installed in rings for SONET transport. Protocol transparency becomes more important in order to handle a greater variety of services, such as Gigabit Ethernet, storage protocols, and video found in metro area networks.

DWDM is a good fit for high-capacity core networks in metro area networks and for regional extensions between metro areas.

CWDM networks are simple point-to-point and ring topologies that do not use expensive erbium doped-fiber amplifiers typically associated with DWDM.

“DWDM IS A GOOD FIT FOR HIGH-CAPACITY CORE NETWORKS IN THE METRO AND FOR REGIONAL EXTENSIONS BETWEEN METRO AREAS”

Sometimes metro area networks require longer distances and more wavelengths than CWDM can provide. However other WDM techniques were tailored for specific applications, CWDM was used mostly in LANs due to the reach limitations imposed by operating in the 850-nm range. As metro-area bandwidth requirements grew, long-haul DWDM vendors saw an opportunity to apply the same solution in metro area networks. A different set of requirements was involved, however since distances were much shorter. In MANs

Since both technologies are viable in metro area networks, compatibility and interoperation are topics of interest, and several methods of integration have been proposed.

Finally, optical networks are becoming more flexible while CWDM may fit an application's needs today, as the demand for broadband services grow, it might require DWDM, especially if service providers look beyond metro area networks and go to regional and long haul networks for increased coverage.

WIRELESS NEWS

HIGH SPEED WIRELESS LANS

The IEEE Task Group N (TGn), is charged with creating a high-speed wireless LAN standard that will deliver actual throughput of over 100M bit/sec, a quantum leap above the 20M bit/sec for today's 802.11g and 11a WLANs. The overhead in the current 802.11 standard eats up more than half of the 54M bit/sec data rate for both 11g and 11a.

The proposals now before the group use a technique for boosting wireless bandwidth and range by taking advantage of multiplexing. The technology is called multiple input, multiple output (MIMO). MIMO uses algorithms in a radio chipset to send information out over two or more antennas. The radio signals reflect off objects, creating multiple paths that in conventional radios cause interference and fading. But MIMO uses these paths to carry more information, which is recombined on the

receiving side by the MIMO algorithms which generates two or more unique radio signals and uses two or more transmit/receive antennas.

Airgo Networks is the only company today actually shipping a MIMO chipset, which is just now being introduced in consumer-oriented WLAN products from companies like Belkin.

In order for IEEE to pass a proposal it has to win at least 75% of the votes to become the basis for a standard. The technology at the core of the proposals is essentially the same, which could be an incentive for the groups to hammer out a compromise in the coming months, especially as Airgo-based products demonstrate the dramatic performance gains that MIMO delivers.

Many wireless-LAN vendors expect that some form of MIMO will be the basis of work just starting in the IEEE 802.11n.

HISTORICAL TELECOMMUNICATIONS

REGINALD FESSENDEN

Reginald Aubrey Fessenden was a Canadian who was born in 1866. As an engineer, Fessenden made many contributions to the fields of telecommunications and electronics.

In 1900, Fessenden worked for the U.S. Weather bureau, and improved the wireless Morse code system in use. This same year, he conducted an experimental one-way voice transmission over the range of one mile. It was successful, but before long he was forced to resign due to patent disputes.

He formed his own company to manufacture radio equipment, and conducted more voice experiments. His greatest achievement came on Christmas Eve in 1906, when he transmitted a Christmas program of music and Bible

readings to ships in Boston harbour that had been fitted with his company's receivers.

His partners soon broke partnership with him, taking many of his patents at the same time. In the time of lawsuits that followed, Fessenden used his energy to create other useful devices for maritime use, including a crude form of 'radar', and radio-depth finding equipment. At the end of his life, he had accrued some 500 patents.



By Adam Pilbeam

MY.SUNYIT

Where in the world
would I rather be,
Than right here, right
now at SUNYIT.

It's a place where I can
be my best,

Just trying a Dr.
Fitzgibbons' test,

And if this itself won't
make you crash,

You can always count
on Dr. Hash.

He'll make you think
until your blue,

But don't complain
cause I'm not through.

If you thought that you
would ride the wave,

You must not have had
a class with Dr.
Lefebvre,

He'll shine a laser right
in your eyes,

If you can't integrate at
least step-wise,

And the best of course
is Dr. Newman,

His sweets taste great
and he acts quite
human.

BY DR. FITZGIBBONS



EVENTS

- Pre-engineering conference will be hosted at SUNYIT on Thursday March 24, 2005
- Guest speaker Joanna Bawa a Usability Expert will present on Tuesday April 19th, 2005
- SUNYIT's First Annual Telecommunication Networking Conference will be held on Tuesday April 26th, 2005

WE'RE ON THE WEB!
CLUBS.SUNYIT.EDU/TELECOM

MISSION STATEMENT

The SUNY IT Telecom Club is an organization that works in conjunction with the Telecommunications Department at SUNY IT. The Club uses its connections through the department's advisory board and business contacts to enhance the education of its members by organizing activities related to the telecommunication field. These activities include guest speakers from the telecommunications industry, discussions of employment opportunities, and field trips to observe applications of technology in the field.

The purpose of this newsletter is to disseminate pertinent information to its members and to inform those interested in what the Club is currently doing for activities in the meetings. Here you will be able to find upcoming events such as guest speakers and field trips along with telecommunications industry news. By having these events listed we hope to encourage all who are interested to participate.

We also want to assist our members in activities related to course work by providing them locations of technology and industry information located on the Internet. There is a growing number of industry and research locations posted on the internet that students can utilize in their research. It is our goal to track the growth of the number of internet web sites useful to telecommunications students.

Please feel free to send e-mail to the club officers with any questions you may have about the curriculum or the telecom club at telecom@sunyit.edu.

SECURITY NEWS

GENETIC MODELLING OF INTRUSION DETECTION SYSTEMS

In the last few years the world has been witness to a newer form of virus – computer / network virus. In the last decade virus attacks have caused networks many millions of dollars in losses. Despite the concentrated efforts by many to overcome them, the world has seen only an increase in the number of attacks on networks.

From the days of the traditional Firewalls to the Intrusion Detection Systems (IDS), we have been trying hard to come up with a system to thwart these attacks. In the recent years researchers have been trying to model the attacking agents (Viruses, Worms, and Trojans) in the form of biological viruses due to the similarities of both to attack systems and propagate further with the help of the “host”.

It was obvious that the next step was to model the defenses of the network according to the human immune system. Though new, this method of modeling the defense of a network seems to be the prototype of the next generation intrusion detection systems.

Researchers hope to model these systems in a way which would facilitate them to “learn” on the basis of history and a given set of rules. This would be the same as the human body getting vaccinated against diseases. Once the IDS knows about a particular virus/worm/Trojan it is expected it would not only repel those threats found, but also any variants. Variants are those attacks which come from the same parent but have some features which are different from their “offspring”. The new IDS are expected to recognize variants and deny their access to network resources.

The proposed IDS are also expected to make newer and stronger versions of itself on its own. By using its own power to reason the IDS would be able to cross two algorithms and obtain a single one which would incorporate the working of both parent algorithms.

Although a lot of this is still in the testing phase there is little doubt that in the near future we will use these IDS to protect our systems and money.

By Niranjana Joshi