



ONLINE

Publication of the International Engineering Community

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WebTV - Internet Accessibility Without Computers

I have been nagging a close friend and professional associate for the last five or six years to come online and share his knowledge and experiences with the rest of the structural community. As he approaches his retirement years, Tom (a fictitious name) has great aspirations for how he can serve his profession, but fears learning a new technology. He sticks to the idea that you can't teach a dog new tricks and has delegated computer responsibilities to his wife.

Tom invested in a personal computer for the home – expecting to turn it on and immediately be productive. To this day, he knows little more than how to turn the machine on. Learning even minimal computer skills requires a personal sacrifice of time and energy – something that is not likely to be achieved by anyone who is not willing to commit to it. As he did in the past, Tom delegates these responsibilities to others – in this case his wife Dottie.

Dottie (also not her real name) has "some" experience with computers. Working part time as a secretary and personal assistant, Dottie maintains Tom's financial records, billings and letters. Yet, when trouble arises, Dottie does not know to whom to turn for a solution. Tom, who is totally dependent upon Dottie, pushes their relationship to the limit as his annoyance at the number of "glitches" that occur in the learning process grows. The question both ask is "Why must this process be so difficult?"

This is not an uncommon story. For the last six years, Online has been promot-

ing computers to bring engineers current with their peers. Six years ago computers were the only available option for those who want to be connected. However, in the past few years, alternatives have become available to solve this problem. This issue of Online will take a look at one of those alternatives - WebTV.

Web TV

"Founded in June 1995 by three former Apple technologists and multimedia pioneers—Steve Perlman, Bruce Leak and Phil Goldman—WebTV Networks is dedicated to bringing high-quality, affordable Internet access to television consumers through integrated, easy-to-use, standards-based technologies and services."

The idea took off like a raging storm – offering the public access to the Internet without the learning curve associated with a computer.

In September of the same year, Microsoft Corporation announced that it had acquired a minority equity position in WebTV Networks so as to develop the technologies and means to deliver Internet content to television. Not Surprising, Microsoft acquired WebTV Networks Inc. in April 1997 for approximately \$425 million in stock and cash.

This launched the market for Phillips/Magnavox and Sony who have licensing rights to produce set-top boxes that connect to the user's telephone and television sets. WebTV provides a user-friendly interface that is accessible by hand held remote control. The system allows users to interactively surf the

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What's
Hot

Research Engineers 13th Annual Users Conference!

It's that time of year again. The weather is warming, school is coming to an end, and we at Research Engineers are frantically organizing the 13th Annual Users Conference.

This years Users Conference will be held August 5 - 7, 1999 at the Flamingo Hilton in Las Vegas, Nevada, USA. We will be offering conferences for STAAD, AutoCIVIL, PacSoft and FabriCAD.

This site will be updated periodically to bring you the latest information regarding conference agenda and other developments. [Click here to find out more about the 13th Annual Users Conference and registration.](#)



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SEAINT Online

Structural Engineers Association of
Southern California

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Editor: Dennis S. Wish, P.E.

The comments expressed herein do not necessarily reflect the opinions of the Structural Engineers Association of Southern California.

Message from the Editor

It is an honor to return as editor of *Online*. It is immensely satisfying to learn that the SEAOSC Board of Directors has recognized *Online* as an important component in the development of our professional community.

The last issue of *SEAOC Online* was released a little over a year ago. In the ensuing period, an innovation, of sorts, had been taking shape. This innovation will significantly change the way in which we work, interact with one another, obtain information and bridge the geographical constraints which, historically has alienated a large percentage of our profession. The most important advantage of this innovation is that we expect it to become the focal point for professionals worldwide.

SEAINT

This innovation has brought me out of editorial retirement to launch a new newsletter, which is closely linked to the goals of an international, unified engineering community – aptly named SEA International or SEAINT, for short.

SEAINT has been created to be the hub of a worldwide network of professional engineers, students, professional organizations, affiliates and academics. The hub was built around the idea that a global unified building code was a foreseeable reality. A few of us thought it necessary to establish tools that could be used to complete the work, normally prepared at local and regional levels and which must now be accomplished on a larger scale.

I believe that *SEAINT Online* will be an important component in this development. *Online* will provide information and instruction that will ease the transition of those engineers who have little or no experience with computers. However, *SEAINT Online* is not only about virtual tools – it is about community consensus, questions, opinions – the assimilation of information arising from all

corners of the globe. SEAINT provides the tools, the participants provide the content and *SEAINT Online* will summarize and bring these topics to readers who are not yet a part of the virtual community.

Our first issue discusses the choices available, which will introduce engineers to the electronic services offered to the structural community - one of which doesn't even require a personal computer. An investment of less than \$150 and an Internet service provider is all that is needed to participate in the virtual world of SEAINT.

Our goals include assisting engineers who do not possess competent basic computer skills. *Online* will provide tutorials and articles that will help make the transition easy and understandable. *Online* will strive to provide in-depth software reviews and tutorials to satisfy both elementary and advanced computer users.

Listserservice

The SEAINT Listserservice is our most successful advancement to date. The Listserservice is a virtual community where engineers can meet and discuss issues relevant to their professional practice. Discussions often entice strong opinions, passionate responses and thought-provoking commentaries. These opinions become important to each of us when we need to make an informed decision that constitutes professional judgment. Some of the most prolific and renowned members of our profession frequent the Listserservice. *Online* will present 'threads' of conversations to entice the reader to participate and promote comments that offer a fresh perspective on important issues facing the structural engineering community.

I am proud to be one of the original pioneers of the Small Office Home Office (SOHO) philosophy. I'm not sure if I was

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Future of the SEAINT Internet Server

For the past three years, the Structural Engineers Association of Southern California (SEAOSC) has funded and maintained its Internet Server. Recently, to promote other structural associations here in the U.S.A. and in other parts of the world, the Server was renamed SEA International (SEAINT). I have designed, maintained and developed the SEAINT server and related tools for the past four years now with my primary goal being to promote structural engineering and improve communication among engineers. Today, you can accomplish many tasks via this Server. Here are a few:

Virtual Yellow Pages: You can list yourself and/or your company under "Engineers On-Line". The list is currently free to all SEA members. That is if you are a member of *any* Structural Engineers Association. This is an excellent area in which to promote your business.

Publication Store: You can purchase all of our publications on-line. These are specialty publications that are not otherwise available in the bookstores.

List Servers: You can "subscribe" to our email list server free and join over 8,000 engineers from all over the world who are discussing and exchanging ideas on this very popular list server. To "subscribe", send an email to **admin@seaint.org** and in the body of the message type "join Seaint" (no quotes). Other list servers to which you can send email are **board@seaint.org** for the SEAOSC board, **seaoocboard@seaint.org** for the SEAOC Board, **seaooc-Convention@seaint.org** for the SEAOC Convention Committee, **seaoocchair@seaint.org** for the SEAOC Committee chairs, **seaoocmembers@seaint.org** for the SEAOC members and **ncsea-cac@ncsea.com** for the NCSEA Code application committee.

Web Hosting: Other SEA's are parking their web sites on our web server. Since this service is being offered free, we expect many more SEA's to join us via our server.

On-Line Reservations: Dinner meeting and seminar reservations are now possible via the website. Currently this feature is available for SEAOSC only. We hope this will serve as an example that other SEA's will follow.

Digital Presentations: Seminar slides/presentations are made available on our website soon after the presentation. Again, we hope to see more of this.

Virtual Meeting Rooms: Chat rooms are now open and accessible via your web browser. Get in there and join the on-going discussions.

Library of Documents: There are hundreds of free documents that are now available to you including committee reports and minutes, board meeting minutes, monthly newsletters, etc.

All that said, what do we have in our magic box for the future? Here are some of things that we are currently working on:

Audio/Video Conferencing: We plan to enable virtual audio conferences via our website. This is simply a multimedia extension of our chat rooms. Soon, as Internet connection speeds improve, we will be able to extend this feature to video conferencing as well.

Streaming Audio: This is currently "in the works." We plan to start with seminars that you can listen to on our website while viewing the seminar slides.

Digital Roster: This will provide you with easy access to current phone and fax numbers and email for all SEAOC members plus you will be able to update your roster information any time. Changes will be effective immediately. Hopefully, other SEA's will follow suit.

Virtual Committees: Recently the SEAOSC Board voted for the first virtual SEAINT Committee. This committee will have members from all over the world who will be working on how to improve SEAINT's role on the Internet. For more information on this committee, contact Dennis Wish, Chair.

Interactive Job Forum: The plan is to allow engineers to find new employees or vice versa. The new interactive Web pages will ask the user a few questions and then perform an extensive search on the Web for the best matches.

Surveys: More interactive surveys (including salary surveys) will be conducted, and the results will be posted instantly. We also plan to run quick polls on issues requiring feedback from engineers.

Electronic Newsletters: These will reach your desktop long before the hard copy. Eventually the electronic newsletter may replace the printed copy.

In summary, you as an engineer will be conducting much of your business via the Internet. SEAINT is working hard for to make sure you are on the right track and well informed. If you would like to help us achieve these goals, please send me an email at seaint-ad@seaint.org.

By Shafat Qazi, P.E.

Request for Seismic Retrofit Case Studies

Case Studies of building seismic retrofit are being sought in connection with a project on development of *Seismic Risk Management Tools for Decision Makers* being conducted for the California Seismic Safety Commission. The building project Case Studies should illustrate the practical aspects of the risk management decision-making process which could offer valuable lessons. Selected case studies may be included in a CSSC publication and will be broadly distributed. Prior to publication, Owner's of project buildings will be requested to sign a publications release and waiver of liability.

Examples of desired Case Studies include:

- buildings for which owners considered the benefits and costs of seismic retrofitting in a detailed fashion, were seismically retrofitted, and subsequently experienced strong ground motion;
- buildings that were seismic retrofitted, have not yet experienced strong ground motion but whose technical or project aspects are of major interest, or where owners considered cost benefit issues to be of prime importance.
- buildings considered for but not seismically retrofitted,

where the project aspects offer valuable lessons, and where it was determined not to be economically viable.

Projects that include both retrofit of structural and nonstructural systems, or of either may be of interest.

Persons or firms interested in submitting one or more candidate Case Studies should provide a description of the project including project location, project owner, relevant dates (project start, construction), a summary of the technical, project, unique and interesting aspects of the project, and a photograph or sketch.

The project contractor for the California Seismic Safety Commission is EQE International, Inc. and the Project Description should be forwarded by January 22, 1999 to:

CSSC Case Studies
EQE International, Inc.
1111 Broadway, 10th Floor
Oakland, CA 94607-5500 USA
(510) 817-3100
FAX: (510) 663-1046

Inquiries may be addressed to Dr. Charles Scawthorn (crs@eqe.com) or Mr. William Bruin (wmb@eqe.com) at the above address.

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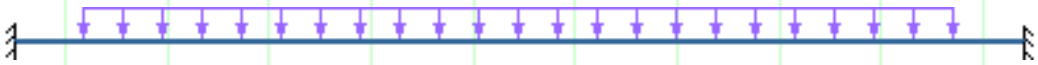


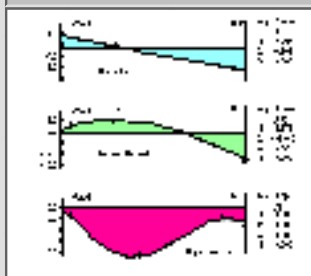
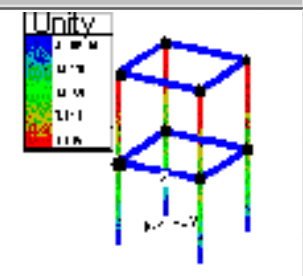
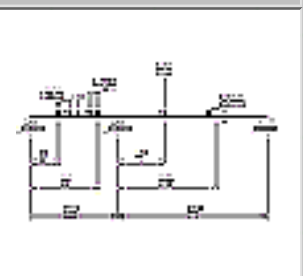

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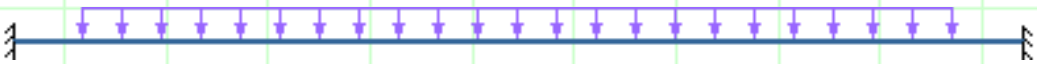


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Internet and communicates with others around the world by email and Chat. Although the basic package does not include a keyboard, a wireless (infrared) model is available as a highly recommended extra.

The system sets up in just four easy steps; unpack the shipping carton, connect to an existing phone line, plug in the video cables and, register the service. WebTV is a proprietary subscription service with two models. The Classic sells for under \$100 and provides complete Internet accessibility for \$19.95 per month. The Plus integrates into the home audio/video system and allows the user additional features such as Picture in Picture display and notification of incoming phone calls with Caller ID. The Plus unit is less than \$200 and the monthly service is \$24.95. The optional infrared wireless keyboard is about \$50 more.

WebTV is automatically upgraded by flash bios. The system does not need to be replaced or serviced when additional features become available. Each time the system dials up the local access number it searches for upgrades and performs the service on the spot.

There is a Smart Card slot on the front of each unit. The technology, although not yet available, is being developed by the financial industry. A Smart Card is a credit card sized module with a computer chip embedded within. It will store personal information and be used to conduct secured services such as buying product, paying bills and banking over the Internet.

Email

Each WebTV account provides six email addresses. Messages are stored on the WebTV service provider's hard drive where they can be accessed until deleted by the user. A copy of all messages sent by the user is maintained for one week or until deleted by the user.

Each family member maintains their own messages as well as a personal address book. Photographs, video and audio clips can be attached to email. However, only graphic files are supported on the lower cost "Classic" unit.

Listservices

The SEAint Listservice is essentially an email service. Messages posted on the List are distributed to every subscriber in the form of separate email letters. WebTV users can expect to receive from ten to 30 messages a day from the SEAint List. It is possible to "Digest" the list retrieval. This means that the List messages arrive only once a day and are compiled into one message. Digest formats are an advantage with WebTV since they reduce the amount of accumulation and work to clean up

old messages left on the server. As an example, I have accumulated some 600 messages from the list in a little over a month. If I chose to receive them in digest format, I would only need to keep track of some thirty documents. The downside is that it is more difficult to review posts in digest format since individual responses may be deep in the document.

Chat

Chat groups are virtual areas where people with common interests can meet and communicate in real time. Real time means that each party is physically connected to the Internet at the same time. Conversations are accomplished by typing statements to and from each party. Chats can be held privately between two parties or openly in a group format. As one user types a line, another user may be responding to a question asked some ten or twenty lines prior. It is similar to sitting at a table with ten people speaking at the same time. In time, each chat participant learns to track and maintain multiple conversations at the same time.

SEAint has been suggesting the use of Professional Chats for committee work and for peer review conversations.

Although WebTV chats occur on a dedicated server, it is possible to join chats that are website-based and which a web browser (rather than dedicated chat software) can access. This should be possible between the SEAint Chat and a WebTV user.

Newsgroups

The Usenet is comprised of some 30,000 public sites similar to a Listservice. Messages are stored on the Usenet server and are accessed rather than received automatically. WebTV provides a newsreader that allows the user to enter the site, browse or search through messages. Messages stay on the News server. The user can post a response, which is attached to the original message, creating what is commonly referred to as a "thread." Each time a discussion draws interest, the resulting thread grows larger with each response attached to the end of the last. Threads make it easy to follow the conversation.

WebTV provides access to the Usenet Newsgroups although there may be an additional charge above the basic Internet service. I was unable to verify if this was included in the basic service. Users on one of the WebTV Newsgroups suggest that it may be an additional service in some areas of the country.

Search Engines

Finding information on the Internet is similar to finding a book in the library. A utility called a Search Engine locates the infor-

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mation and presents the user with a list of addresses matching the search criteria. Search engines have become the most profitable enterprise created by the Internet. Engines are popular to advertisers who gain exposure to their products each time an engine is accessed. Search engines such as Yahoo, Excite and Lycos catalog more than 250 million web pages – providing the user with a synopsis of the sites that match the search criteria.

More experienced users learn to refine their searches. Many of the search engines use Boolean conditions such as “And” and “Or” to narrow the search. Other engines provide help by using Artificial Intelligence to anticipate the user’s need by interpreting the search criteria in and out of context.

Special search engines are used to locate email addresses, business listings, Newsgroup messages, current newspaper articles, government addresses and much more. Trying to navigate the Internet without a search engine is analogous to trying to find a phone number without a phonebook.

Pros and Cons

WebTV is intended for those who want to be able to access the information and services available on the Internet without investing in a computer. It serves the needs of those who have neither the desire nor the inclination to work with a computer, but who want to maintain email contact and occasionally search the Internet.

There are two models available and three manufactures to chose from (Sony, Phillips/Magnavox and Mitsubishi). There would seem to be very little variation between the two models to warrant a \$100 difference but I would recommend spending the additional sum. The WebTV Plus is more tightly integrated into the home entertainment system, allowing picture-in-picture use, concurrent use of the television and Internet. A faster processor and modem justify the additional cost.

Both models allow the user to send information to a printer, although WebTV Plus is the only model that incorporates a printer parallel port on the back of the unit. The user must purchase an adapter from the set-top manufacture in order to allow a printer to be used on the Classic model. There is some question as to whether Sony will continue to manufacture the adapter and may have already stopped selling the option. Currently, Phillips/Magnavox is the only company that advertises an adapter for their Classic set-top box. For this reason, I can only recommend the Phillips/Magnavox system for those who wish to purchase the Classic model.

WebTV cannot download attachments or transmit anything other than web pages or email text. It will not replace the word processing features of even the most simplistic computer. Re-

member that WebTV is a Microsoft product and therefore would be closely tied to their Internet Explorer. The downside is that some web pages not conforming to Microsoft’s Java script may not appear correctly on the screen. WebTV will suffer from the same problems that computer users experience when going online. The greater the number of users at any given time of the day, the longer the user will have to wait for the web page to appear.

Another concern is that the user is at the mercy of the WebTV service in order to use the system. It should be comforting to know that Microsoft is investing in the future of Interactive Television. Therefore, it would seem that WebTV would be around long enough for many of you to become comfortable with Internet accessibility.

Stepping Stone

WebTV has limited professional uses, but I believe it is an excellent stepping stone for those not interested in computers. It provides the minimum tools needed to participate with SEaint’s professional services, integrates tightly into the home entertainment system and provides an inexpensive means to get ones feet wet in new technology. WebTV is available at all electronic retailers.

By Dennis S. Wish, P.E.

Which Direction for Building Codes?

The following article attempts to tie together several topics that have building codes, and their profound impacts on us, as the common thread. The opinions expressed are intended to be provocative and informative. They are not the official position of [SEAOC].

As an opener, I reprint a paragraph that appeared among some Seismology committee documents about twelve years ago, its author unknown but much appreciated:

The Code Problem

“The problem of code proliferation in an attempt to make the codes into hand books to replace analysis by engineers, and to make the code reflect all of the research results, has been well recognize

Engineers are in general agreement that this proliferation should be controlled because more complex codes are not the answer to the need for effective, efficient design. Engineers should do more than agree on this. They should go to work to streamline the present codes and restrict the complexities of new codes. This means resisting the inclusion in codes of any complicated criteria which cannot be readily understood by the practicing design engineer, and any restraints on design not fully justified.”

In the last few years, the Central Section’s Code Committee has been following the above principles consistently and resolutely. Other committees there and elsewhere, particularly code committees in other Sections, appear to be strongly inclined in the other direction, toward code expansion and “complexification”.

Autonomous Committees

These autonomous committees are not recruited, and their membership is not screened to maintain any balance of diversity. The members are simply volunteers and those who show up run the committees. Central’s Code Committee suddenly became heavily populated with members who specialize in small wood frame buildings. The prime reason was that word got out that radical changes in “conventional construction” provisions affecting these projects were being supported (although not officially originated) by the Statewide and other Sections’ Code Committees. Vigorous opposition was raised and considerable controversy arose. Central’s efforts failed to achieve much in the way of revisions and as a fallback we vetoed Statewide SEAOC official endorsement of the proposal before ICBO, where it failed. Our Code Committee’s position and actions, I’m told, are still regarded as obstructive bad form elsewhere among SEAOC Sections. We were supposed to meekly join a consensus. I’m further told that organizational changes to prevent such future unpleasantness are in the works. SEAOC has

a terribly low threshold of tolerance for controversy, it seems.

Meanwhile, the conventional construction code revisers did heed some of our wishes, and also falsely claimed to limit their code revisions to Seismic Zone 4, thereby gaining ICBO approval the following year. You’ll find their gem of clarity in the 1994 UBC in Sections 2326.1 through 2326.5; 2326.11.3 and 2326.11.4.

Other proposals for inclusion into code that Central’s Committee successfully headed off include a very lengthy and detailed treatise on the design, detailing, and construction of plywood diaphragms and shear walls. This document instead will be distributed as an advisory guideline. Another was a manifold expansion of the old familiar embedded pole provisions in the foundation chapter. Its aim was to head off all possibility of “misuses” if the site had any slope, etc. This one was all prohibitions, with nothing to enable the user to cope with any of its complicating conditions. We claimed it lacked sufficient necessity and left code users in a quandary. Many, many of the code proposals coming before this committee would merely make fixed routines and rituals out of existing flexible and adaptable design principles — in effect, to prevent engineering from being applied in any thinking way. But, over our heads always hung this question: Are we mistaken and the others correct in these contrasting desires for what the code should be?

This year

Now this year comes very powerful backing, indeed almost total vindication of Central’s vision for the building code. Just as the anonymous Seismology commentator said a dozen years ago, so does today’s best-selling author on regulatory laws, Philip K. Howard in *The Death of Common Sense*: “Our regulatory system has become an instruction manual. Detailed rule after detailed rule addresses every eventuality, or at least every situation lawmakers and bureaucrats can think of.”

He asks, “Is it a coincidence that almost every encounter with government is an exercise in frustration?” According to Howard the dominant theme in formulation of codes and regulations in recent years is “almost a religious tenet” to make rules as precise, comprehensive, and finely detailed as possible. The goal is to cover every eventuality so that the outcomes will be both certain and uniform for all. The use of flexibility and judgment by either the complying person or the enforcer is to be avoided at all costs. The words of the rules will tell us exactly what to do and not do, so that judgment will be precluded. The well-intended benefits of this approach are to prevent mistakes and errors, and to ensure fairness and non-discrimination, by means of covering everything

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in advance and by preventing use of discretion and possible abuse by officials. Ail that sounds rational and altruistic, but does it work? Author Howard, an Appalachian preacher's son now practicing law in New York City, says no. And, he says further, the harder this method is pushed and the more zealously refined, the worse it works. Fairness benefits backfire, the mistakes and errors aren't prevented, and the worthy purposes of the regulations are likely to get lost in the shuffle. As size and complexity overwhelms efforts at compliance, code violations become unavoidable and "enforcers, who supposedly have no discretion, have complete power." Then we quit trying. In the Code Committee we joked about becoming "code criminals." Testimony to Congress called it "the syndrome of involuntary noncompliance."

Construction defect lawsuits come visiting every so often, even when we've been alert to the needs of each project. How does it help when the other side's expert finds scads of nit picky code details you can't keep track of and didn't expressly demonstrate compliance within your calculations?

Human Judgment

Howard attributes the paradoxical failure of complexified codes to their insistence on eliminating the uncertainties of human judgment as applied case-by-case: "Modern regulatory law basically outlaws common sense." He says that when the law loses its connection to common sense, not internal compass can guide people as to right and wrong. Discretion-free regulations are equated to centralized planning in the Soviet Union: "It kills the human faculty that makes things work." It sure did to the Soviets, but how about in building construction and code administration?

The Building Code didn't start out big, thick, and inflexible. The Building Official is still given the discretionary powers to render interpretations, to issue clarifying supplemental regulation, and to rule on alternate materials, methods of design, and methods of construction not specifically prescribed. We engineers have long been given very libertine discretion in such sensitive matters as retaining walls, which "shall be designed to resist the lateral pressure of the retained material in accordance with accepted engineering practice." As for required

inspections, the Building Official has the discretionary power to make or require enough "other inspections of any construction work to ascertain compliance..." and to order special inspections and structural observation as the situation may warrant; Are these discretionary powers abused? If anything they are underutilized. The trend, to my eyes, is that engineers and building officials alike increasingly shy away from asserting their own common sense, judgment, and discretionary preroga-

tives⁽¹⁾ It's as though one can have a greater measure of authority than of responsibility, when those two things are just opposite faces of the same coin and can't be separated. Give away one and you've lost the other. Leave it lying around and it'll be stolen from you — by a SEAOC Committee, by ICBO, or by the Board of Registration.

Read the book

The anonymous piece quoted at the beginning urges taking action. Code users, writers, and enforcers alike would do well to take in Philip Howard's book. You'll be in good company. A full-page article in the March 27 [1995] Newsweek shows President Clinton touting the book and hosting its author. (If Clinton isn't your idea of good company, Senator Dole and others did the same). The cost in money and time to get this book is about the same as going to a monthly meeting, minus the cocktail. Take the book home and read for 20 minutes, then pour your own drink. You'll enjoy it. The first and fourth chapters of four, less than 70 pages, are on point for the future of our building code as it affects our professional lives. Forewarned is forearmed. Don't wait until the building code becomes totally comprehensive and totally incomprehensible before you act in your own interest.

⁽¹⁾Inability to interpret "unusual size and shape" in wood frame houses was given as the reason for adopting the arcane definitions now in the conventional construction sections listed earlier.

By Charles O. Greenlaw, S.E.

Reprinted from In This Corner", a monthly feature of the SEAOC newsletter, April 1995

* Charles O. Greenlaw, S.E., resides in Central California and has been a regular contributor to the SEAINT Listservice. He has been an active member of SEAOC (Central California) since 1970 where he served as chapter President in 1985-86. Mr. Greenlaw spent two two-year terms as a delegate to and Director of SEAOC (state SEA). He served as a member of the Seismology Committee from 1979-87, Member of the Legislative Committee from 1984-94 (chair 1988-94) and member of the Professional Practice Committee since 1994 (as chair since 1997). Mr. Greenlaw also has been a liaison to the California Board of Registration since 1988. He has contributed numerous professional practice-related articles to the association newsletter and has been published in numerous newspapers.

RISAFoot Version 1.0

Few software vendors can claim as much respect as does Risa Technologies. One of the last DOS holdouts, Risa2D and 3D FEM programs remain the most widely recommended by SEAint Listservice members and publications such as **Modern Steel Construction**. While we patiently await the announcement of Risa2D and Risa3D for Windows, Risa Technologies has introduced their first Windows-based pedestal footing design program— RISAFoot.

RISAFoot is a biaxial single pedestal footing design program. I admit that my first impression was that it was a bit unimposing. I take footing design for granted, assuming that most designs are solved within three or four lines of analysis. My naïve assumption was recently put to the test as I had to design an eccentrically loaded footing with a laterally induced moment applied (in two directions) at the base of the column. I use a competitive program for complicated footing design and this gave me the opportunity to compare results.

Tightly Integrated

RISAFoot is a tightly integrated program. The opening display is filled with cascading screens representing each portion of the design process. The designer can easily switch between screens to “fine-tune” any information. The program starts with a designer-defined description of the project. This is applied to the header of the printed analysis. All input can be easily set to become the new default values, which are used each time the program is started. This is helpful when working on multiple foundations for the same project. Only that information which differs need be put in. This can also be a problem if the designer forgets to update information – including the name of the project. On more than one occasion, I discovered that I had printed the correct results but with the wrong client information.

Saving individual footing designs can create a management problem. Files tend to get misplaced or labeled with confusing file names – at least they do on my hard drive. I would have preferred if Risa created RISAFoot around a file management system that would accumulate footing calculations into one

file. Besides the advantage of keeping all calculations together, each project can have a default template to apply to each footing. Each footing, in turn, can be referenced to design drawings. Although this is a minor issue, it can help the designer keep track of projects that contain numerous foundations.

Another screen defines the footing geometry. The designer has the choice of calculating a square or rectangular foundation. A range of sizes determines the minimum and maximum width and depth. RISAFoot uses this information to incrementally calculate the minimum area that is required so as not to exceed the allowable bearing pressure. If a rectangular foundation is desired, RISAFoot will begin the analysis by optimizing

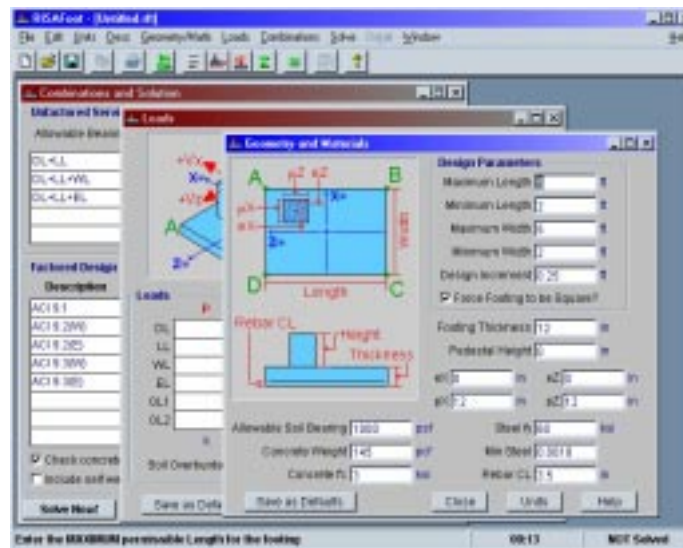
the width and depth to be as close to square as possible. The designer can adjust the ranges so as to affect the desired aspect ratio. The designer can also choose to fix the width and depth. RISAFoot will provide the supporting analysis and reinforcing steel design.

Design load-sets include dead, live, wind, seismic and two miscellaneous load conditions. Each load-set can contain an axial load, and a shear and moment applied in either or both major axis. The designer may define an overburden or assume the load as zero.

RISAFoot applies the overburden load to the area of the footing less the region used by the pedestal.

The program neglects the overburden and self-weight (less the pedestal) from the design combinations because they do not contribute to flexure design of reinforcing steel and shear check requirements. Overburden and self-weight are considered to be uniformly supported by the soil below the footing. The RISAFoot Help Files explain that “a buried footing resting on a continuous soil bed, if not loaded other than with self-weight and overburden, is not flexing or shearing. Overburden and self weight DO, however, contribute to total soil bearing, so they are included in the service combinations used to calculate maximum soil bearing.”

RISAFoot recognizes that certain loads can occur in any direc-



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RISAFoot Version 1.0

Continued From Page 10

tion and allows the designer to specify if the load should be applied in both directions. This is very useful in regions affected by wind and seismic forces. All load-sets, except dead loads, can be applied in each direction of each axis. This increases the number of load combination calculations performed by the program, but yields the greatest degree of accuracy.

RISAFoot can design a “Deadman” type foundation where uplift forces are expected to control. This is useful in open or lightweight structures affected by wind loads applied below and normal to the roof. However, the program does not provide input for a range of footing thickness and the designer must adjust this at each trial. If a footing is used to control uplift, the designer must be aware of the design width and depth as RISAFoot sets no limits as to how large an area is used to resist uplift. The designer may limit the depth and width and, RISAFoot will refuse to calculate unstable results. The designer should then vary the depth of the foundation until a sufficient volume is determined to resist uplift. One word of caution, RISAFoot will not warn the designer to shift the reinforcing to the top of the footing where tension is likely to occur. This may be necessary where the area is increased but the thickness is shallow.

The 1994 UBC Table 18-1-A footnote 2 assumes a minimum footing is 12” x 12”x 12” deep and allows a 20% increase in allowable bearing pressure for each additional depth and width (except for Clay soil conditions) to a maximum of three times the designated value. Lateral bearing may be increased to a maximum of 15 times the designated values. Code values are assumed as minimum requirements that can change by the recommendation of a Geotechnical engineer. RISAFoot does not take the UBC increases under consideration. This may be because the depth of the footing is fixed which implies that the designer is responsible for entering the applicable pressure for the soil conditions and depth of the trial section. At the very least, the Help Files should remind the designer of this inasmuch as the program proposes to determine the most economical section.

RISAFoot Reports Most Impressive Feature

RISAFoot reports are the most impressive feature of this program. The designer is provided with a summary sheet that indicates compliance to the most restrictive result in each load combination – including reversals. The report summarizes service soil bearing, flexure design, and maximum shear – including punching shear, overturning moment safety factors and concrete bearing capacity (for vertical loads only). The designer should be warned that most building codes require the Overturning factor of Safety to be greater than 1.5. RISAFoot

does not stop the calculation when it does not comply with the minimum code standards. It displays the inadequate condition in red to draw the attention of the designer.

A plan and cross-section of the footing is provided that displays the footing dimension and placement of the applied loads. The flexure design provides a rebar summary. If the foundation is rectangular and the load eccentric, the design summary also indicates each region where steel density changes (measured in area per region width). My only complaint here is that RISAFoot reports the reinforcing steel as a total required area for each direction (per region). This requires an additional manual step to calculate the actual size and spacing of rebar. RISAFoot might have gone one step further and provided the designer with a choice of size and/or spacing.

I compared RISAFoot to another popular rectangular footing design program. RISAFoot yielded consistently more economical sections. The load reversal analysis provides another dimension to the program that informs the designer of potential concerns. The example I ran displayed a less than adequate overturning factor of safety only when modeled using the load reversal feature. All results are checked using the ACI 318-95 code checking formulas 9.1 to 9.3 (determined by load combination). All load combination factors are adjustable to comply with different codes or local municipalities.

On a Scale of 1 to 5

On a scale of 1 to 5 where five is top rating, I give RISAFoot 4 stars. I would like to see the file management system improved. I would expect a program in this price range to include a few extra bells and whistles such as UBC allowable soil pressure increases and reinforcing steel size and spacing.

Despite these few shortcomings, RISAFoot is an extremely accurate design and analysis tool which performs as advertised and with accurate results. The input is intuitive and easy to learn. The results are comprehensive and well presented. The designer has complete control over the problem and can easily interpret the results. For readers who are familiar with the quality of documentation provided with Risa2d and Risa3d, you won't be disappointed with those included in RISAFoot. Overall, I highly recommend the program for those instances where unusual load conditions and eccentricities need to be addressed.

RISAFoot retails for \$295 and is available from RISA Technologies, 26212 Dimension Drive, Suite 200, Lake Forest, California 92630-7801 – 800.332.7472 or sales@risatech.com.

By Dennis Wish

Events

AF&PA Wood Fair – Long Beach California

On Sept. 30, 1998, the American Forest and Paper Association sponsored the *Wood Solutions Fair* at the Convention Center in Long Beach, Calif. The fair consisted of a choice of 12 hour-long seminars addressing topics such as NDS & LRFD, wood shearwalls and diaphragms, manufactured plated wood trusses and a two-hour panel discussion on the proposed design of shear walls with openings. Those who desired a break between seminars could peruse the booths of 30 manufacturers and distributors of products ranging from the latest ICBO information to proprietary shearwalls and a host of software including AF&PA's Woodworks Design Office 97.

The concern for the performance of narrow shear panels after the Northridge earthquake has created a market for alternative products. Hardy Frame, Simpson Strong-Wall, Z-Wall are all products that control panel deflection in spaces as narrow as 14 inches and 10 feet in height. Proprietary wall systems can be installed using conventional R_w values without the penalties imposed in the Uniform Building Code for embedded columns. Each of these products has been cyclically tested in accordance with the provisions established by SEAOSC. Each was awaiting issuance of their revised ICBO reports as of the date of the fair. All of these manufacturers have reports on file for monotonic test values.

The crowning point of the day was an afternoon panel discussion on seismic design entitled "Recent Advances in Wood Panel Shear Wall Design". Gene Zeller, head of Long Beach Building Department, moderated the panel discussion. Panel members included Andrew Adelman of the City of Long Beach; Tim McCormick, the new building official for the City of Santa Monica; John Lawson of Kramer & Assoc., a participant in the SEAINTE Listservice and expert in wood diaphragm design; John Coil, S.E., chair of ATC-R1 committee that oversaw early cyclic load tests on narrow shear walls at UC-Irvine; and John Rose, another Listservice member and representative of the American Plywood Association Technical Service Department.

Brad Douglas, Technical Director of AF&PA explained



the proposed code provisions for designing shear walls with openings. The discussion brought very mixed feelings – mostly cautionary about the performance of the system described by Douglas. There appears to be a great deal of information left to review before any of the panel members representing local building departments would be willing to accept the alternative methodology.

The most impressive part of this wood fair was the cost. The Fair was open to architects and engineers. Admission was \$25 for a full day with choices of 12 seminars, the panel discussion, a hot lunch and accessibility to all vendors and product information. Very simply stated, AF&PA did something that no other organization was sensitive to - they kept a small office budget in mind when creating this seminar. \$25 for a full-day seminar with lunch is a bargain in anyone's budget.

The Wood Solutions Fair will be held in the following cities throughout 1999:

March 9: Baltimore/Washington; May 25: Cincinnati;
Oct. 5: San Francisco; Nov. 9: Houston.

For more information interested parties should contact American Forest and Paper Association: 613-747-0466 or visit their website at

http://www.cwc.ca/la_reg.html.

Overall, it was a very enjoyable day. It also turned out to be a mini-reunion for SEAINTE Listservice members who have been conversing over the Internet for a long time. and never met face to face. I think we enjoyed seeing if the appearance matched our expectation.

By Dennis Wish

Internet Searches

Surfing the Internet for Earthquake Data

One of the most comprehensive websites devoted to tracking earthquake data information. Contains links to every reporting agency throughout the world.

<http://www.geophys.washington.edu/seismosurfing.html>

FEMA Management Institute – EENET

FEMA Emergency Education Network. “The Emergency Education NETwork (EENET) is a satellite-based distance learning system utilized by FEMA to bring interactive training programs into virtually any community nationwide. This system provides fire and emergency management training on a regularly scheduled basis through EENET’s “National Alert” monthly broadcasts, as well as a variety of “special” videoconferences, training courses and town hall meetings. Schedules are updated periodically.

Shareware and Freeware Software

EEN programs are also available for viewing on the Internet. Programs are stored in Real Audio and Real Video format (requires Real Audio Freeware Software). Other documents are stored in Adobe Acrobat format.

<http://www.fema.gov/library/lib03.htm>

Avwin98 Plus – Avansse Software

For a limited time, Avansse is offering a full-featured three-dimensional FEM program free to SEAINTE members. The offer has been extended to SEA members who must the program (4.2 Mb) from the Avansse website. AVwin98 Plus is a powerful yet intuitive program that includes dynamic analysis and full AISC code checking. The program is feature laden and worth the download time. Downloads are fully licensed and users can obtain technical support directly from Avansse via email.

Avansse is making this offer as reparation for a problem that occurred a few years ago with distribution of the code-checking module. Avansse hopes to rebuild the confidence of previous users and to introduce AVwin98 Plus to new users. AVwin98 Plus retails for \$1,800 but is available for a limited time to SEAINTE members.

For those of you who might ask – there is no charge to become a SEAINTE member but you will need a Windows 95/98 based personal computer to download the 4.2 Mb file.

Features:

- Data export to SAP 80/90
- Dynamic analysis (modal spectral)

- Shells analysis
- AISC-ASD design and optimization
- AISI-ASD design and optimization
- Reinforced concrete ACI-318 design
- P-Delta analysis
- Help files – contains the complete manual

<http://www.avansse.com/seaint.html>

Free Subscription to SEAINTE List Service

To subscribe to the SEAINTE List Service, send an email message addressed to admin@seaint.org. In the *body* of the message type the words: **join seaint**.

Questions? Send email to seaint-ad@seaint.org. All email sent to the list is released to the public and may be reposted without permission. Visit the SEAOSC Website at

<http://www.seaint.org>

Email listservers have been established on the seaint.org Internet server for both the SEAOSC and SEAOC Board of Directors to encourage communication between the membership and the directors. By emailing the list server, all directors automatically receive the message. The email address for the SEAOSC Board is board@seaint.org and the address for the SEAOC Board is seaoocboard@seaint.org. Please communicate with your association leaders.

Message From the Editor

Continued From Page 3

influenced Wilbur Post, an architect who shared a converted barn with his talking horse Mr. Ed. Whoever inspired me to establish a professional practice at home never prepared me for the unique problems I was to face. One thing is certain – a sense of humor is required. Home Alone was meant to be a one-time experiment that became the most popular column in past incarnations of *Online*. I am pleased to resurrect the column in a new guise - @Home Consultant. You have my assurance – only the name has changed to protect the innocent, the family stays the same.

In parting, I would like to thank each of you who made *Online* possible. We are at the threshold of a new era of engineering and I am pleased to be a part of it. I encourage each of you to write and express your opinions as to the content within. I promise that it will not be dull around the SEAINTE community and I hope to greet you all.....Online.







dennis s. wish p.e.

California resident? [Read the updated Legislative Alert!](#)

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Best viewed with version 4.x browsers or better.



The @Home Consultant

My wife Mari saved to buy a special set of cookware that she wanted to hang from a wood rack in our kitchen. The kitchen is roughly 10 feet square with a 14-foot raised ceiling. Being a traditional Southwest style home, I used a great deal of exposed heavy timber - including four 6x16 Douglas Fir beams that surround the kitchen. The kitchen is open on two sides that join the great room. The beams were distressed to make them appear worn and old – I didn't have the patience to wait for the real thing.

I designed this home, every stick and connector. As an engineer I took no risk too lightly and over-designed the structure at the expense of the finishes. It was four years before we saved enough to purchase our tile floor, surviving on bare concrete. However, my wife lives very happily and in the comfort that our home will probably survive the "Big One", maybe even the asteroid that wiped out the dinosaur.

Mari purchased a rectangular wood rack with wrought iron hangers and chains to suspend from the heavy timber beams. Knowing that I would take months to hang the system, Mari decided to purchase the hardware herself.

What kind of hooks?

She asked me what type of hooks to buy. I told her that all she needed were the conventional decorative ceiling hooks - same as those used to hang ceiling fans and light fixtures. I explained that they were good for about fifty to eighty pounds each. She was surprised that her engineer husband had recommended something that was obviously insufficient for the tremendous weight of our pots and pans.

I heard the hardware hit the counter tile and stepped out of my office to inspect the purchase. She came back with two 5/8" diameters by 5" long eyebolts. I asked her why she didn't buy the decorative hooks I recommended. I explained that what she purchased was capable of supporting a light plane. She said that the decorative hooks would only hold 15 pounds each. I asked how she arrived at the 15 pounds (knowing that they were good for almost 100 pounds). *The store clerk told her.*

We were not getting off to a good start here! I asked why she didn't take my advice and purchase what I asked for! She felt that the pots and racks weighed much more than I guessed (professional judgment out the window). She reminded me how far off I can be when guessing the cost of an item in a store and felt the same proportion was justified here.

Actually, this is not correct. It's true that I don't know the cost of clothing – but I can easily get my wife upset when she brings home an item she believes she got such a great deal on. Virtually every time this happens, I guess within 5% of what she actually paid (engineers learn to live within 5% limits). You see, Mari believes that the item is worth the retail value and is excited to be able to find it for so much less. I, on the other hand, believe it is worth no more and probably less than my guess. I further believe that she is being taken advantage of if she spends more. Therefore, I guess the price by more than what I believe it is worth. I've started doubling my estimate - purposely - because I love my wife and want her to believe she made out as well as she believes.

Weigh the Rack and Cookware

I challenged her to test the weight of the rack and cookware. Off she went to fetch the electronic scale. I estimated the cookware at 30# in the box - she guessed 70#. Feeling like superman I hoisted the box onto the scale where it weighted in at 31 pounds - in the shipping carton. The wood rack came next. I guessed about 15 pounds - she about 30. The rack came in at 15 pounds.

Reminding her that I do this for a living, I asked her to return the "obscene" bolts for something more reasonable - like the decorative hooks that I originally wanted.

She returned somewhat later with a new find - 3/8" diameter eyebolts. Growing annoyed, I asked why she did not purchase what I asked for - again. I reminded her that I am an engineer and we have been married almost twenty years and I've never been sued (not even for a failed connection). I can understand that my parents would question my judgment; they only know that for the last 12 years I haven't been able to find a job with an engineer who will check to see that I haven't made a mistake. After all, they still don't admit that I am self-employed, only that I am unemployed but able to make my mortgage payment. However, I am really hurt that the woman I have loved for almost 20 years, and for whom I've made great effort to inflate my estimates of her special purchases, *could doubt my engineering judgment.*

But the clerk said...

She told me that the clerk at the store said the 3/8" diameter bolts were good for only 70 pounds. I asked how he would know better than I?

"He sells them for a living!" she reminded me. I reminded *her* once again that I design them for a living and have more

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The @Home Consultant

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education and experience than the store clerk. Still not willing to put her precious cookware to the test, Mari enraged me to the point that I was forced to assault her with the hard facts from my trusty AITC manual. I showed her the capacity of the bolts in both tension (around 400 lbs. for 3" embedment) and shear (about 150 pounds laterally (reduced 25% for no side plate). I explained that even a 16d nail had the capacity to resist over four times the load of the 25-pound combination of cookware and wood rack.

"...I had to be wrong..."

She told me I had to be wrong since the clerk at the hardware store seemed so knowledgeable. She did confess that the first clerk, at the checkout counter, obviously did not know her job since she estimated the withdrawal capacity of the 3/8" diameter lag bolt at about 15 pounds.

Mari stood her ground and confronted the checkout clerk. Mari told her she was obviously wrong since, by comparison, the diameter of the bolt she needed would be somewhere in the neighborhood of 2". *That's my girl, disregard the advice of a professional to debate structure with the Ace Hardware clerk.* I gave up the argument and proceeded to install the 3/8" eyebolts.

I measured 6" up from the bottom of beam at each side where the lags were to occur. Mari once again stopped me and asked how I knew that the bolts would be level.

I don't drink, but was ready to start. I kept my cool and explained that the bottom of the beam was assumed to be level since the ceiling had to be level. I also explained that if the columns settled, it would not be noticeable since "I WAS THE ENGINEER OF RECORD WHO DESIGNED THEM".

"I was about to drill..."

I was about to drill the first hole, when she again mentioned that the marks I made did not appear level. I tried to explain that the grain made them appear at different heights but each one was, in fact, 6" from the bottom of beam.

I put the drill up to the mark and Mari disappeared for a second only to return with a level - "just to make sure".

I stepped off the ladder starting to feel the perspiration run from my brow as my temperature soared. I asked her to check it and let me know when she was ready. She called me back in to say that she couldn't read the level. I told her to place it at the bottom of the beam. If the bottom of beam was level, the marks were level.

Are any of you surprised to find that the bottom of beam was level? If you are, remember that I oversized the beam for appearance so the expected deflection was virtually nothing. Needless to say, after one hour the two lag bolts met their mark and now support the 30 pounds of pots and pans and the 15-pound rack.

Mari's happy. Therefore, I'm happy. Well, almost. After 20 years together, I'm starting to wonder if she really understands the difference between a C.E. and S.E.

One thing is for certain. I'm changing hardware stores.

By Dennis Wish, author of the popular Home Alone column in previous incarnations of Online.

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SEA International – Engineering Tools for a Global Community

Six years ago, while chairing the SEAOSC Computer Applications Committee, I sat down with my friend Shafat Qazi at a hamburger stand about a mile from the ICBO building in Whittier. We discussed the impact that computers and technology will have upon the future of structural engineering. We shared our thoughts, like futurists who could feel the excitement of emerging new trends that possessed the capability to unite engineers from all over the world.

Both of us were enamored by the idea that information could be attainable instantly from anywhere in the world and delivered directly to our workstations or home. We talked about the importance of these trends and the tools that were necessary to enhance productivity. We were both avid computer enthusiasts (as well as competent professional engineers) who knew our way around various computer bulletin boards. However, Shafat was a step ahead of me. He was very well informed about a network of computers that would revolutionize the way in which we shared information. This new service was called the *Internet* and had been around in academic circles for over 30 years. The greatest drawback was the lack of a graphical user interface. To access the Internet, a user had to be versed in Unix and understand the complicated task of retrieving stored information on a black screen. Of course, the information available at the time was mostly academic in nature.

AOL Appears

Within a very short period of time, we were deluged with on-line graphical Internet services and the race was on. CompuServe, an H&R Block Company, led the way as the largest of the new companies. Prodigy, a Sears subsidiary, came in at a close second and soon a newly emerging service called American Online (AOL) challenged the lead position in this competitive market. The rest is history. AOL, which now owns CompuServe and Prodigy, was purchased by the original company executives in partnership with International Wireless in 1996. MSN, a Microsoft service, has been in the market since the release of Windows 95, but has not been able to catch up with AOL in Internet services although they are positioning for the personal information market with major advancements planned for broadband communications.

Shafat and I wanted to act immediately to bring engineers up to date with this new technology. In 1993 SEAOSC polled our local chapter and found that a very small percentage of the SEAOSC members were computer literate – less than 5% in 1993. Over 95% of those were using PC-based systems. It's important to understand how quickly the technology was changing and that we could see how difficult it would be for

engineers to catch up if they did not make the commitment to begin updating their practices.

As a comparison, companies that produced work on CAD in 1990 were considered to be on the cutting edge. CAD provided a competitive edge that made the learning curve a worthwhile investment in a company's time and resources. However, within a year or two, CAD was no longer the competitive edge, it was a *necessity* for businesses who wished to remain competitive. *In 1998, computer automation is mandatory for those who wish to gain the most productivity and who are expanding their markets to other competitive regions.*

I moved away from Los Angeles in 1993. Although I was relatively close (150 miles), I feared that I would become stagnant by not having accessibility to the professional community I had left behind. This concern was short-lived as we launched our first Internet tool – the Listservice. A Listservice is an electronic bulletin board where messages can be posted by subject. Responses are attached to the tail end of the message and each ensuing response is tailgated to the last. This method of tracking discussions is known as “threads.”

“Subscription”

Subscription is a deceiving term. There is no charge to join the Listservice and SEA membership is not required. The subscription simply registers the user with the Listservice program. Unlike actual bulletin boards, messages submitted to a List are distributed to each person on the subscription list, as are all responses. If there are 12,000 subscribers, a post or response is instantly distributed to all 12,000. *Online* will cover this in more depth in our next issue.

What I had not counted on was that these tools, in such a short time, had delivered me to a level of peer participation than I had never realized, even living in Los Angeles. Here I was, 150 miles away from my local chapter and better informed on structural engineering issues than I was while living in the heart of engineering creativity. Every question I posed gave me at least three or more in-depth opinions from prominent and recognized engineers. Each response gave me a different perspective to help me make an informed decision.

Soon we developed our first Website that connected engineers with SEAOSC and each local chapter. The hope was that engineers could stay abreast of the work done by each committee in each chapter. However, we found that the lack of computer literate members of the profession as well as those with special knowledge of the Internet impeded the flow of information from committees to the Website. I am happy to report that this is starting to change as SEAOSC and other

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SEA International – Engineering Tools for a Global Community

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chapters are beginning to pledge allegiance to members who wish to be kept informed of their chapter's work.

Which direction?

We began to refine our definition as to the future of the Internet. When I first seriously considered the benefit of the Internet to our profession I realized that SEA had two directions from which to choose. SEA could take advantage of the power of our Internet tools to establish a leadership position in the development of the IBC. The other option was to realize that this tool had far greater capabilities that would benefit much more from the process of bringing politically based engineering organizations and individuals together if it remained a neutral platform. With the help of comments from our Listservice, SEAOSC realized that a professional association has a responsibility to its members foremost and to the regional associations second.

Approximately eight months ago, with the full support of SEAOSC, a new "virtual association" was launched. A virtual community of engineers, it required no membership nor was it pledged to any position on issues of code development. Nevertheless, this association was committed to one purpose – the creation of tools that would be used by any and all professionals – independent and affiliates – who wished to work jointly to resolve issues in the best interest of the public. Approximately eight months ago, we registered and unveiled **SEA International** – not simply a name, but an ideology — devoted to maintaining a neutral position to promote a unified global engineering profession.

Engineers possess a certain perception of a professional organization such as SEA. This perception includes great ethical, professional and business integrity demanding high academic standards. Professional organizations are equally assessed as political bodies, which may not share opinions as to the direction in which the profession is evolving. I don't believe that anyone who has participated in a professional organization – even as a member – would support a group that could not constitute change and, therefore, demand political strength. Unfortunately, this requires organizations that are committed to the work produced within their committees to vie for the position of leadership. This is not intended to be critical of the fine work that arises from these organizations, but demonstrates a discontinuity that prevents interaction between professional organizations with decidedly different views and slows down progress.

SEAINT is a neutral platform – albeit one that is supported with hardware owned by one of the most prominent profes-

sional organizations in the country. Yet there is a distinction to be made which must remain the underlying ideology for the success of SEAINT. SEAINT must establish and maintain its principle as a politically neutral standard and each organization that bears the SEA logo must be willing to protect this important doctrine in order for other organizations to confidently share in the use of the virtual tools made available to them. There must be a rule that protects the privacy and freedoms of other professional affiliations. There is a dogma associated with any title starting with the initials SEA. In hindsight, it may have been best to disassociate the name, but SEA deserves the credit associated with the monumental work that went into the creation of the tools which are presently used by over 12,000 engineers, students and affiliates worldwide.

There is a great deal of information passing through our Listservice. Engineers use the list to discuss issues relevant to the practice of engineering. The threads of information gathered on each topic needs to be retrievable by those who may face similar problems at some point in the future and who wish to read the opinions of others so as to make an informed professional judgment. For this reason, the source of electronic information should be centralized as much as possible. While we are on the threshold of a new era in structural engineering we have an opportunity to establish standards for the dissemination of information. The system is already established. The difficulty is convincing other organizations to entrust their information to the SEAINT server.

SEAINT has established a policy to support any professional organization that wishes to use our services. Each organization is provided with a Website, email for their committee and board members, Listservices and the use of any and all tools available for the creation of a virtual committee. Each organization has complete autonomy over their tools including the ability to modify and expand beyond what is provided them. SEAINT does not moderate websites or lists and privacy is assured. The only limitation is the size of the Website and any additional services required that requires additional time from those who volunteer to maintain the server. SEAINT provides sufficient storage to allow the organization an Internet presence at no cost. Those wishing to enlarge their website will be charged a competitive rate that will help maintain and enlarge our server's capacity.

SEAINT is intended to be self-sufficient – independent of financial support by any politically based organization. Our goal is to be funded entirely by advertising and special services (including Internet-based seminars). Financial security is key to maintaining neutrality in the eyes of those who might be predisposed to believe that the support of SEAOSC may be a

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conflict of the ideology which we are trying to uphold. It is important for other organizations to understand that the services offered beyond those provided for free help to generate the funds needed to support the hardware and maintain professional neutrality. For that reason, it is important to promote additional services that are financially advantageous to those organizations that might otherwise hire independent consultants to provide an Internet presence. This type of support is clearly beneficial to the development of a unified global community.

Uncharted path

With this said, the path ahead remains uncharted. The tools are already in use and new services are anticipated. The size of the continuously growing Listservice archives requires storage and an ability to retrieve information in the most expedient manner. Nevertheless, there needs to be a direction, which will anticipate and create a standard for the dissemination, storage and retrieval of all information that passes through the SEAINT server.

We will attempt to tackle many of these problems in forthcoming issues. I also anticipate the need for a SEAINT Committee to attack these issues and to create a standards manual for those who use the tools. I recently requested volunteers for this committee from Listservice subscribers. The first member of this committee is an engineer from Argentina who represents a similar organization subscribing to the ideas of a neutral arena serving the international engineering community. With this first volunteer comes the proof that SEAINT is truly an international association striving to unite and assist professionals for all corners of the globe.

Excitement, thanks

In closing, I wish to tell you that I am excited about the technology that lies over the horizon which will have a profound impact upon the future of engineering. I would also like to take this opportunity to thank a few people who made this possible. First and foremost, I'd like to acknowledge Shafat Qazi, P.E., my friend and accomplice (as well as our system administrator) who directed us to the Internet and brought the hardware to life. The members of the SEAOSC Computer Applications Committee helped launch our efforts back in 1989 and provided a tremendous amount of support for the next four years. The SEAOC Computer Applications Committee helped refine our Internet presence. I would also like to thank contributors to *Online* such as Mark Deardorff, Mark Middlebrook, Bruce Bates, James Lord, Steven Fisher, Jerry Murdock and others who brought created tutorials, information, reviewed software

and simply contributed to the high quality of content that *Online* has been known for.

I wish to personally thank James Lai, S.E., our local chapter president, for his insight, personal support and commitment to the creation of our Internet presence has a far greater reach than is possible by any one local or regional professional association. I would also like to thank the SEAOSC board of directors who had the courage to recognize an innovative ideology and to pledge their support to make it a reality. Finally, I wish to thank the most important people who now hold the future of engineering in their hands – the 12,000 subscribers to the Listservice and especially to the few hundred active participants who have reached out and provided help to their peers in every corner of the world.

A child is born

Approximately eight months ago, a child was born. This child was conceived from ideas and dreams. This child now belongs to our professional community and we, as responsible parents, must protect and raise this child known as SEA International.

By Dennis Wish



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