
THE Interface

NEWSLETTER OF THE
HUMAN FACTORS &
ERGONOMICS SOCIETY
SOUTH JERSEY
CHAPTER

MAY 2004

2004 Second Issue

Our recognition syndrome, upcoming events, summary of Dr. Colin Drury's talk, job openings, mini-conference

President's Column: Our Recognition Syndrome

By Kenneth
Allendoerfer

Another friend-of-a-friend approaches me at a party and asks what I do for a living. As usual, I stumble over the answer. Let's see. My official job title is Engineering Research Psychologist but that would lead down a bad conversational path—I don't want him telling me about his mother or his kids' ADHD. Maybe saying human factors engineer is better but then he might hear human resources and that's a whole different conversation.

So I lead with "Heard of ergonomics?" and launch into a five-minute seminar of the field, my background, and how I ended up in New Jersey. The friend-of-a-friend gets a strange look on his face and moves on, leaving me feeling that I've just been sent to the Boring Weirdo folder. And I'm



not alone. I bet you, and hundreds of human factors professionals like you, also suffer from Low Cocktail Party Recognition Syndrome.

Part of this results from the raw numbers. There are about 4,000 members of the HFES. Even if there are two non-members for every member, there are no more than 15,000 people who work in human factors. By comparison, there are more than 38,000 members of the American Medical Association and untold legions of non-members. In addition, nearly everyone has been to the doctor but often I'm the only human factors professional someone has ever met. There's no Ergonomist General and there's no human factors equivalent of *The Practice*.

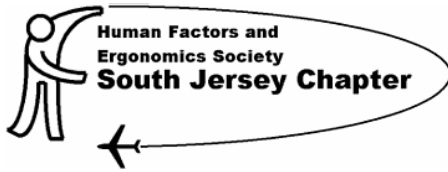
The worst part of the syndrome is that it doesn't just happen at cocktail parties. I still encounter people in high-tech industries who are surprised to learn that human factors engineering is actually a job. They have never worked with a human factors professional before and they don't understand what we do or how we can help them. Worse still, there are members of Congress, which allocates millions of dollars per year to human factors research and engineering in many domains, who have questioned whether ergonomics is actually a scientific discipline. If these people, who should know better, haven't heard of human factors, what chance do we have with

everyone else?

But don't despair, fellow sufferers. The news isn't all bad. Every time you conduct a research study, make a product more usable, make a procedure more efficient, or identify a problem before someone gets hurt, you help all of us recover a little bit. The HFES annual meeting raises awareness in the cities that host it. The City of Minneapolis declared "Minneapolis Human Factors Day" when the meeting was hosted there in 2001. National Ergonomics Month, sponsored by the HFES, will be celebrated this year in October and will help raise awareness at the national level. Unfortunately, I'm sure National Dental Hygiene Month (also to be celebrated in October) will get more press, but it's a start. And I'm proud to say that the community outreach project and the mini-conference that our chapter is organizing will help at the local level.

But what about the individual level? What should our cocktail party answer be? My advice is this: Pretend to change the subject. Have a prepared example of a device or system (e.g., car, stereo, computer, household appliance) that you bought but hate to use. Come up with some quick theories about why you hate using it. Tell all of this to the friend-of-a-friend and ask if he's had a similar experience. Chat about how you might improve the device. Add some of your professional knowledge and experience.

Then draw some designs out on a napkin together. And then, when that friend-of-a-friend is finally smiling, say "See what we just did right there? It's called human factors engineering. It's what I do. Tell a friend."



Upcoming Events and More

By Edmundo A. Sierra, Jr.

Our next Chapter meeting will be held on May 26th in the RDHFL conference room at noon. I will be giving a talk titled, "Pilot Perceptions of Airspace Complexity." We look forward to seeing you there!

Abstract

Three questions were under investigation in this study: 1) what are the characteristics of airspace that affect pilot perceptions of its complexity; 2) what benefit does a decision aid have for detecting and resolving conflicts; 3) will users accept the aid? We collected performance and rating data from 14 commercial airline pilots and used a neural network model to associate airspace characteristics with pilot complexity ratings. Performance data included response times, task completion times, and conflict resolution accuracy. Pilots also rated the conflict aid for ease of use and acceptability. The neural network generated a set of airspace components that influence pilot perceptions of airspace complexity. The conflict resolution aid appeared to reduce task resolution difficulty regardless of the level of complexity. It also improved conflict resolution perform-

ance. In addition, pilots rated the aid favorably in terms of its value to conflict detection/resolution and ease of use.

A number of our Chapter members will be presenting posters at the HFES 48th Annual Meeting. In August, we will provide the opportunity for members to display and briefly talk about their posters to the Chapter. The talks should be brief and delivered as they would to someone visiting your poster at the HFES meeting. This will be a great opportunity to get feedback. I invite those of you who are interested to reserve a slot on August 25th by emailing me at ed-mundo.sierra@titan.com.

	2004 Program Review
June	Speaker: Science Fair Winner
July	Speaker: Gulshan Panjwani
August	Poster Exhibitions
September	Chapter Picnic
October	Ergonomics Month
November	Speaker: To be announced
December	Chapter Christmas Meeting

Summary of Dr. Colin Drury's Talk

By Carolina Zingale



In March, the chapter was fortunate to have Dr. Colin Drury, Distinguished Professor of Industrial Engineering from the State University of New York at Buffalo, give a presentation entitled, "Human Factors in Aviation Maintenance and Inspection: Finding the Cracks Before They Find You." Dr. Drury was at the Tech Center for another meeting during the first week of March and graciously agreed to talk to our group while he was here. Special thanks to Gulshan Panjwani for arranging to have his former thesis advisor speak to us!

Dr. Drury's work focuses on the application of human factors principles to manufacturing and maintenance processes, including aviation maintenance and safety. His talk described the development of a human factors "Good Practices" job aid for users. Inspectors who search for cracks in aircraft or for hidden weapons in luggage, for example, have little formal knowledge of HF. The purpose of the job aid is to help these users enhance their understanding of the process, why certain steps or functions are performed, and how those affect inspection outcomes.

Inspectors do not encounter many defects and flaws. However, if undetected, the consequences can be deadly. Dr. Drury summarized the inspector's job as one requiring sustained attention and influenced by a number of factors including the type of instructions given, whether feedback is provided, individual characteristics, equipment characteristics, environmental characteristics (e.g., lighting), and the expectations of others.

Several types of inspections are being analyzed, including: visual, fluoroscopic, borescopic, ultrasonic, and x-ray inspections. Dr. Drury presented a number of illustrations from field sites for which task analyses were conducted. Some interesting observations from those visits were described. One involved an inspection area that re-

quired low ambient lighting levels because of the detection equipment used. One manager kept the lights in the surrounding areas dimmer than normal to attempt to keep inspectors better dark adapted, while another kept the lights much brighter to keep people from getting hurt navigating through the crowded work areas. Work area clutter was often observed even in the immediate inspection areas. It was also noted that some of the clutter was not only potentially distracting, but could affect the effectiveness of the equipment being used. For example, white objects (e.g., paper) that reflect light were found in inspection areas requiring a very dark environment. Making users aware of these aspects of the inspection process is part of this effort to improve performance.

Dr. Drury reports that the "Good Practices" currently available have been well received thus far, but that further research is needed to continue to develop them.

Job Openings

Human Factors Manager at Pitney Bowes

Location: Shelton, CT

Job Description

Lead a multi-talented group in the Pitney Bowes Product Design and Usability Center which reports directly to the Chief Technology Officer. The Product Design and Usability Center consists of Human Factors, Graphic Design, and Industrial Design. Human Factors supports the entire line of Global Mailing Solutions which include embedded software systems, PC based systems, and E-commerce products. In addition to group management duties, you will also have a hands-on role on projects with direct responsibility for design and research contributions. Projects require analy-

sis, design and usability testing of both hardware and software user interfaces. Individuals work closely with Software Developers, Designers, Engineers, and Marketing to develop state-of-the-art solutions toward "making a difference" that successfully differentiates Pitney Bowes from their competitors.

Qualifications

Candidates must have at least 2 years experience as a functional manager or a project manager where success depended on ability to

- Lead and motivate individuals
- Employ effective communication and interpersonal skills
- Establish and maintain good working relationships with partner organizations
- Effectively utilize internal and external resources
- Confidently interact with higher-level management.

Candidates should have completed at least a Masters degree in Industrial Engineering, Psychology, Computer Science, or a related field. Technical expertise is especially valued in user needs definition, problem analysis, usability evaluation methods, design of embedded/web/windows user interfaces, and hardware product design. Familiarity with anthropometric/ergonomic design issues and mailing/shipping systems is a definite plus.

Send resume to Stan Caplan, recruiting@netacc.net.

Human Factors Engineer at Z-Tech Corporation

Locations: San Jose CA, Washington DC and Atlantic City NJ.

Job Description

Duties: Applies human performance principles, methodologies, and technologies to the design of human machine systems and products. Develops and implements research methodolo-

gies and statistical analysis plans to test and evaluate developmental prototypes used in new products and processes, such as cockpit designs, user workstations, and computerized human models. Interfaces with design engineers to establish system design, operating, and training requirements and to ensure optimized human-machine interfaces. Identifies and analyzes technological problems or risks, performs theoretical human factors investigations, and develops and implements research and analysis plans. Experience in Military Systems Development, Aviation, Air Traffic Systems, Aviation Security a plus.

Frequent use and application of technical standards, principles, theories, concepts, and techniques. Problem Solving Provides solutions to a variety of technical problems of moderate scope and complexity.

To apply to this position, please visit our website @ www.z-techcorp.com or fax resume to 301-315-2803.

Contact Information

Shannon Twamley, Human Resources Manager
Z-Tech Corporation
1801 Research Boulevard, Suite 102
Rockville, MD 20850
Office: 301-315-2800

Human Factors Engineer at Boeing

Location: Seattle, WA

With the reality of the 7E7 program being launched with orders for 50 airplanes from All Nippon Airways, we in Flight Deck Engineering and Flight-Crew Operations Integration are hiring.

As usual, we seek multi-disciplinary people (engineering, pilot or flight operations, human factors) who are good communicators and team members

orleaders. For new grads, programming skills can also be important.

If interested, please contact Brian Kelley at (425)-294-2548.

Annual Membership Drive

By Pam Della Rocco

Please renew your membership in the South Jersey Chapter of the Human Factors and Ergonomics Society (HFES). Membership fee is still just \$10 per year.

Membership is open to anyone with an interest in human factors. You do not need to be a member of the national HFES to join. The benefits include a newsletter, hearing guest speakers, touring facilities with human factors programs or issues, sharing information and networking with colleagues, video presentations...and, of course, the good company. The program committee is already working on an interesting set of activities for this year.

If you've never joined or are new to the area, please join us. To join or renew your dues for 2004, please complete the form in this newsletter and/or contact Pam Della Rocco, Membership Chair.

Highlights of Recent Executive Council Meetings

By Bonnie Kudrick

Minutes of the May 11 2004 meeting of the Executive Council. Those Present:

Kenneth Allendoerfer
Tanya Yuditsky Mittendorf
Carolina Zingale
Pam DellaRocco
Bonnie Kudrick
Mark Hale
Edmundo Sierra
Shantanu Pai

Kenneth opened the meeting at 12:10. Last meetings minutes were not read but approved.

Activity Report

Edmundo reviewed the chapter's schedule, asking Kenneth if the Science Fair winner is a confirmed speaker for one of our meetings. As yet nothing is confirmed. Eddie viewed a VHS tape on Pilot Error and stated that it did not hold his interest.

This created discussion of what to do for National Ergonomics month. The decision was made to concentrate our efforts on students at Rowan College and create a specific agenda for Mark to present to his connection at Rowan. The issue remained open about whether to go through the faculty or the Psi Chi chapter, in order for the National Ergonomics month presentation to get the publicity it needs within the school.

Treasurer's report

Mark - Our savings account has \$747.50 and the checking \$152.42. Mark also suggested that perhaps we have an egg sandwich fundraiser for our chapter. Kenneth thought if we were raising money for a specific event that would be better.

Membership report

Pam- membership is at 25; we need more events to bring the members in.

Mini-conference report

Tentative dates discussed for conference: April 8 or 15, 2005

Kenneth called the Federal Air Marshals office to see if we could use the auditorium on a Friday for the mini-conference: they stated that they will get back to him.

Topic and Theme for Mini-conference

Reviewed report submitted by Gulshan Panjwani in reference to topics of interest. After some discussion the topic for the Mini-Conference shall be Human Factors in Complex Socio-technical Systems suggested by Kenneth and agreed upon by everyone.

Tours

Ginger Cairns will work with us on the Tours. Groups will be 15 to 20 participants and need to be registered and confirmed prior to start of conference. This will be added to the registration form for the conference.

Handouts/Perks/Incentives

Linda states that Northrop Grumman will donate Helicopter pins. Carolina priced merchandize for purchase, such as; Airplane pens or travel clocks.

Tech Center Facilities

The Tech Center can process approximately fifty people in ten minutes. International visitors will be handled separately. Country will be added to the registration form to identify the International visitors.

Hotel Information

Tabled until closer to the conference date

Fee

Bonnie proposed a \$15 per individual fee and there were no objections. Snacks will be provided for the participants however they will be on for lunch

Keynote Speaker

Honorarium, room and meals will be provided

Call for Papers

Solicitation needs a statement for the submission of papers and posters. Suggest or request APA format?

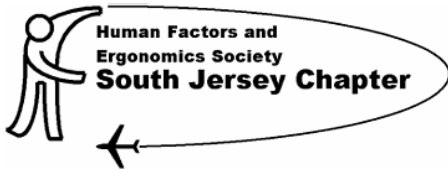
Process should be streamlined for quick turn around.

Tour information was reported by Kenneth and Bonnie after their meeting with Ginger Cairnes.

Closing

The next chapter meeting will take place on June 8th at noon.

The EC meeting was adjourned at 12:45 pm



South Jersey HFES Chapter Membership and Renewal Application

For the Year 2004

Applicant Name: _____

New Member (*complete all fields*)

Renewal (*complete this section only*)

I am (a Fellow / a Full Member / an Associate Member / Not a Member) of the National HFES (*circle one*)

Organization/Company: _____

Mailing address: _____

Daytime phone: () -

Evening phone: () -

Fax number: () -

E-mail address: _____

Endorsing SJC-HFES Member: _____

SJC HFES dues for 2004 are \$10. Make checks payable to the "Human Factors Society." Submit applications and checks to:

Pam Della Rocco
ACB-220, RDHFL Bldg 28
Wm. J. Hughes Technical Center
Atlantic City Int'l Airport, NJ 08405