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# THE Interface

NEWSLETTER OF THE  
HUMAN FACTORS &  
ERGONOMICS SOCIETY  
SOUTH JERSEY CHAPTER

OCTOBER 2004

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*President's Column, upcoming events, HFES Experience*

## President's Column: "Pull the Lever" For Usable Voting Systems

By **Kenneth  
Allendoerfer**

It's almost over. After endless primaries, rallies, television ads, blogs, conventions, polls, and now debates, the 2004 election season is finally drawing to a close. While it's not appropriate for me to comment on the candidates in this column (come by my cube and I'll blather about for hours...), I will discuss a topic that relates to both politics and human factors: voting systems.

Since the 2000 presidential election, with its hanging chads and butterfly ballots, millions of dollars have been spent changing voting systems around the country. Many controversies have resulted,



some technical, some philosophical, and some political, as to whether these changes are actually improvements or not. I'm not going to comment in this column about most of those controversies, but I do find it interesting that topics we've always discussed in human factors, like usability and accessibility, are now part of the national political discussion. Below I focus on the issues most relevant to human factors.

Video on "Modern Marvels: Runways" at the our next meeting on October 27<sup>th</sup>, noon at RDHFL

First, voting systems (and, let's remember, pen and paper ballots *is* a voting system) must be usable by the widest possible community. Many assumptions that user interface designers rely on can't be made for voting systems. A citizen who cannot move a mouse or touch a touchscreen has the right to vote. A citizen who cannot read has the right to vote. A citizen who has never used a computer before has the right to vote. The designer has a responsibility to ensure that all these citizens

have the ability to exercise their rights. Building a system (or even several complementary ones) that can accommodate this enormous, melting pot of a user community is one of the biggest, wickedest usability problems of all time.

There are two main human factors goals when designing a voting system. The first is *accuracy*. Our democracy depends on the system accurately recording the intentions of the voters. As human factors engineers, we know that users of any system, no matter how well designed, will sometimes make mistakes. That means there will always be some percentage of people who meant to vote for Mickey Mouse but ended up voting for Sponge Bob. The job of the human factors engineer is to minimize those errors and allow voters every opportunity to correct the errors they'll inevitably make.

At the same time, a voting system needs to establish clear lines. We can't allow people to complain (or sue!) for months after an election that their votes weren't counted correctly or allow them to change their minds after the results are in. If your bank teller makes a typo and records your \$100 check as \$1000, there are

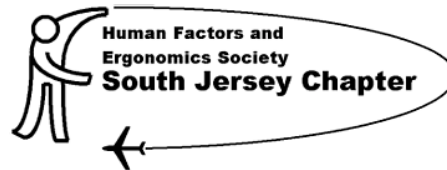
many places, from the receipt the teller gives you to the bank's internal audits to your own monthly bank statements, where the error can be identified and corrected. In voting, because of the need for secret ballots and because we want to resolve the election in a timely manner, many error checking techniques that are common in other systems can't be used in voting. *This emphasizes the need to design the system to reduce the human error at the front end.*

The second human factors goal is *simplicity*. As human factors engineers, we know that systems that are hard to use *doesn't get used*. If the voting system is confusing or too time-consuming, a certain percentage of voters are not coming back next year. People may have good reasons for not voting but one of them shouldn't be "the voting machine was too hard."

Remember too that there are whole groups of users of voting systems apart from the individual voters. Poll workers are often volunteers without technical backgrounds. If a system isn't working properly, the poll worker is probably not qualified to fix it. Or, if the system is especially complex, the poll worker may not even understand when something is wrong. In addition, election officials must be able to get the results out of the system easily, accurately, and securely. *All users of a system need to be considered in the design process.*

So, when you go to the polls this year, and I hope you will, no matter who you support, look at the systems and the technology. Is it easy for you to use? Would it be easy if your education or background were different? Would it

be easy if you were disabled? If the answers are no, consider contacting your local election commission and volunteering your expertise as a human factors engineer. Voting is "wicked problem" and we, as human factors engineers, have the knowledge to help.



Past and Upcoming Events

By **Edmundo A. Sierra, Jr.**



In September, the chapter hosted the annual picnic at the Estell Manor Park. Attendance this year was cut in half because rain was expected. It did indeed rain on some hotdogs and hamburgers, but not enough to put out the coals. After the rain stopped, we grilled some more and played some games of bocce ball. Even though we did get a little wet, the picnic was a success thanks to all of the cheerful Chapter members who attended.

#### 2004 Program Review

October 27 <sup>th</sup>	Video on Modern Marvels: Runways
November 17 <sup>th</sup>	Speaker to be announced
December 22 <sup>nd</sup>	Holiday party

# The HFES Annual Meeting Experience

By **Gulshan Panjwani**

The Human Factors and the Ergonomics Society's (HFES) 48<sup>th</sup> Annual Meeting was held this October in New Orleans, LA. Just like the last time, I was excited to have the chance to go to this key conference for people involved in human factors research, not to mention the opportunity to present as well. I had a chance to attend the chapter president's meeting and get a feel of what human factors chapters across the country are currently involved in.

Donald Lassiter, a professor at Methodist College, convened the presidents' meeting. The agenda for the meeting was as follows:

#### Activities for 2004

- ❖ Revitalization Subcommittee activities and report  
I am a part of the Revitalization Subcommittee and am working with the Southeast Michigan Chapter and the Rio Grande chapter to help revitalize them. The report just presented the work we have done. Jean Francois Darcy, who is a Titan employee, is also a member and he was able to revitalize the Western New York Chapter. Other chapters that were revitalized over the last year were the Ohio Chapter and the New England chapter.
- ❖ Local Chapter Distinguished Service Award  
The committee plans to award a local chapter member, if recommended by the chapter

president, for an award for his hard work. All presidents will be informed to send in a nomination if they wish and the individual will be awarded a certificate. A subcommittee has been formed to co-ordinate this activity.

- ❖ Chapter web sites
- ❖ Inactive chapters
  - Don talked about the work of the revitalization committee and how much work is done to contact and revitalize. A decision was made that if a chapter does not send in a report for 2 consecutive years, then they will be taken out from the directory.
- ❖ Availability of chapter handbooks (*Organizing a Chapter* and *Operating a Chapter*)
- ❖ Recognizing chapter revitalization efforts
  - Stan Caplan, from the Western New York chapter was awarded a certificate in recognition of his efforts to revitalize the chapter.

#### Activities planned for 2005

- ❖ Continuing efforts of Revitalization Subcommittee. Making contact with chapters needing help
- ❖ Finish development and begin selection of first award recipient
- ❖ Continued communications regarding chapter web sites
- ❖ Inactive chapters
  - Warned for disaffiliation
- ❖ Addressing chapter membership numbers and encouraging non-HFES chapter members to join HFES
- ❖ Ways to recognize exemplary chapter volunteers

I attended the reception and met up with key researchers in the field of Human Factors. Among them Dr. Hancock, since I used his help in my research paper, and Dr. Parasuraman, who is the key-

note speaker for the mini-conference we plan to have.

Also, I was able to attend the HFES business meeting.

Edmundo Sierra presented results from the GPS Outage En Route Simulation at the meeting. This project was conducted by the Simulation and Analysis Group, ACB-330. Another Chapter member, Greg Niehus, also presented results from his simulation at that same session. His study looked at the effectiveness of placing addressable message boards at runway intersections on the occurrence of runway incursions. Attendance at their session was good and there was a lot of interest in the studies.

All in all, I believe it was a great experience, especially the response to one of the papers I presented. This feedback is very valuable not only in terms of the quality, but also because it could help identify future research direction and focus.

## 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**

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

### Activities report

**October** 27<sup>th</sup>'s meeting activity will be a video on Runways Eddie obtained it and Kenneth will reserve the briefing room. Pizza will be offered again at \$2.00 per slice so that we can possibly make a profit this time.

**November**-Tanya will have Bart present for the November 17<sup>th</sup> meeting. The topic is TBD.

**December** holiday party/meeting on December 22 will just be a social event. No formal speaker or meeting will take place. .

The outreach event at Rowan will take place January 27<sup>th</sup>; promotion of the event will take place as soon as the students return for the spring semester, which will be around January 10.

Kenneth asked Shantanu to make a poster regarding the event.

All “stations” will remain the same:

Station one – “gorilla kiosk”-manned by Bonnie and Mark (DVD on perception)

Station two- “stovetop kiosk”-manned by Carolina and Shantanu

Station three-“aviation kiosk”manned by Pam and Kenneth

Station four- “Bad design kiosk”manned by Eddie Sierra

Station 5 – literature, handouts, upcoming events

### **Membership report**

Pam states that there are currently 44 members in our chapter.

### **Treasurer’s report**

Mark – Our savings account has \$549.88, checking has \$220.41. In addition there’s \$80.92 in petty cash. The EGG Fundraiser netted \$57.50

### **Publications**

Shantanu reports that the new interface will be sent out today for our review, we must send any comments by COB today, so that Shantanu can send it out tomorrow

### **Nominations**

The new ballot was sent out to all members of the chapter.

### **Mini-conference report**

Gulshan got a commitment from Raja Parasuraman that he will be willing to be our keynote speaker on April 29<sup>th</sup>. Deborah, Germack, Mike McNulty’s wife was contacted and she has the auditorium reserved for the conference within minutes. We have

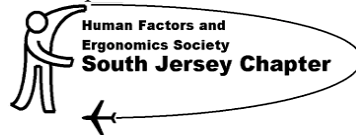
the speaker and location reserved. Other details will be discussed at the next mini-conference meeting which will follow the EC meeting.

Tours were discussed and CTAS and TSA have agreed to do a tour. There will also be the RDHFL and AFTIL.

### **Closing**

The next chapter meeting will take place on November 9<sup>th</sup> at noon.

Kenneth adjourned the meeting at 12:40 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