

# THE Interface

QUARTERLY  
NEWSLETTER OF THE  
HUMAN FACTORS &  
ERGONOMICS SOCIETY  
SOUTH JERSEY  
CHAPTER

MARCH 2007

## Another Year for Human Factors

*New Executive Council, Chapter Presentation, Jersey Shore Science Fair*



### The Competition

By **Kenneth Allendoerfer**

Yes, I'm back for another term as chapter president, which means that you get to read my incoherent ramblings *four more times!* And you say that nothing exciting ever happens in South Jersey.

The chapter had another productive year in 2006, with a bunch of technical presentations, the annual science fair and young inventor event, a community outreach project at Richard Stockton College, and two social events, including our first trip to Cowtown Rodeo. Many thanks to our departing executive council members, **Carolina Zingale**, **Anton Koros**, **Gulshan Panjwani**, and **Bonnie Kudrick**.

We have an embarrassment of riches when it comes to professional associations in our field. The three HF-related associations I'm most familiar with are:

- Human Factors and Ergonomics Society (HFES) – [www.hfes.org](http://www.hfes.org)
- ACM Special Interest Group on Computer-Human Interaction (SIGCHI) – [www.sigchi.org](http://www.sigchi.org)

- Usability Professionals' Association (UPA) – [www.upassoc.org](http://www.upassoc.org)
- HCI Bibliography ([www.hcibib.org](http://www.hcibib.org)) lists 99 different organizations with some relevance to HF, and even their list doesn't include domain-specific groups like the Association for Aviation Psychology ([www.avpsych.org](http://www.avpsych.org)) or large general groups like the American Psychological Association ([www.apa.org](http://www.apa.org)). This reminds me of the classic bit in Monty Python's *Life of Brian* where the People's Front of Judea considers the Judean People's Front to be splitters and heretics. And the JPF thinks the same of the PFJ.

I believe that it's ultimately a good thing that there's enough interest in usability and human factors that three organizations can co-exist. I'm definitely not suggesting that HFES is the one true organization or that SIGCHI or UPA should go away. In fact, I have a number of longstanding complaints about how HFES is run and the quality of its annual meeting and publications. I also have a lot of admiration for the way SIGCHI has built the CHI conference into the most innovative and ambitious conference in our field. And I believe UPA is really on the right track with their community outreach program and in how they work with companies to include human factors and ergonomics in product development. I think we need to learn from those other organizations ways if we want to improve our own.

This year, I'm happy to say, we have sev-

eral new members of the executive council who haven't been chapter officers before, are new members of the chapter, or are new to South Jersey. This brings new ideas and experience, and helps energize the rest of us who, frankly, are starting to feel a little burned out.

So, my challenge to you for 2007 is to look at other organizations, not just SIGCHI and UPA, but all the organizations you're part of. AAA, AARP, the Sierra Club, the NRA, the PTA, the Association of Independent Competitive Eaters, whatever. Find out what they're doing well and what they're doing poorly. Look at how they're trying to a) expand their program, b) get more people involved, especially in leadership roles, and c) offer better products, publications, and services. And then (here's the hardest part) *tell one of the executive council about it.*

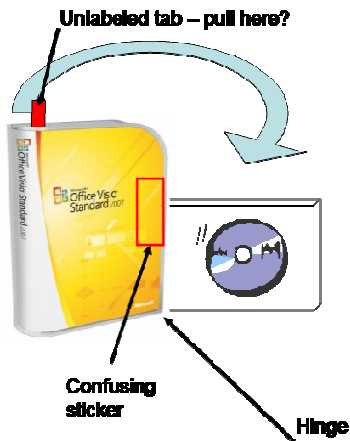
I want the HFES South Jersey Chapter to be a strong competitor for your time and energy. I need to understand the competition.

**Kenneth's Quarterly Unusable Product Award goes to:  
Microsoft Visio 2007 Packaging**

I'm not usually a big Microsoft basher but I have to say that this packaging *really* stinks. It's actually quite nice looking but it took two human factors professionals almost three minutes to figure out how to open it, despite a red (but unlabeled) "pull here" tab. If a package needs written instructions and diagrams before

people can open it, your designers need to be sent back to school.

Hint: This package, despite appearances, doesn't open like a book.



## New Concepts for Electronic Flight Data Handling

By Alissa Jacobs

On Wednesday, March 14<sup>th</sup>, Todd Truitt provided the South Jersey Chapter of HFES with an overview of his work on designing an electronic interface for managing flight data. Currently, air traffic controllers use paper strips to manage flight data. An electronic method for managing this data should improve efficiency, decrease workload, and facilitate information sharing amongst controllers and facilities.

During his presentation, Todd reviewed two interface designs for electronically managing flight data: an Integrated design and a Perceptual-Spatial design. Both designs were constrained by the same set of objectives and principles which included retaining the essential functions of paper strips, preserving controller interaction with the flight data, and maintaining consistency across user actions. Based on these principles, cross-functional teams of cognitive psycholo-

gists, software developers, and air traffic controllers examined previous research and constructed paper prototypes to identify information needs and bottlenecks.

The Integrated Electronic Flight Data Interface (EFDI), displayed on a Vartech touch resistive display, was designed to integrate flight data with real-time aircraft position for use at airports with surface surveillance. On the other hand, the Perceptual-Spatial EFDI overlays flight data on a spatial map of the airport for use at airports without surface surveillance.

Consistent with the goals of this project, these interface designs minimized the cognitive demands imposed by paper strips while maintaining their essential functions. For instance, controllers often perform mental calculations of time (e.g., how much time has passed since an aircraft was released) while managing flight data on paper strips. The EFDIs designed by Todd provided controllers with a visual count-down of time, equipped with visual cues to signal completion of the count-down.



Todd fields questions after the talk (Photo by Kate McDevitt)

At the next Chapter meeting, the usability of the Integrated and Perceptual-Spatial EFDIs for managing flight data will be discussed by Bob Muldoon.

## Chapter Supports Jersey Shore Science Fair

By Todd R. Truitt

It was a pleasure to be a judge again this year at the 32<sup>nd</sup> Annual Jersey Shore Science Fair (JSSF). I recognized a few of the other judges as chapter members too including Dana Whicker, Ferne Friedman-Berg, Kenneth Allendoerfer, Ben Willems, and Sehchang Hah. The JSSF draws hundreds of kids from the region who compete for a place in the Delaware Valley regional competition. There were plenty of young scientists in attendance with their poster boards and data-filled binders even though the weather prevented some of them from competing this year. In my first year as a judge at the JSSF, I was assigned to the zoology projects. Never in my life have I learned so much about earthworms in a day! In the following years I have also judged the Junior division of the Behavioral and Social Sciences (BSS) category. This year I judged some great projects in the BSS Intermediate and Upper divisions.

The Intermediate BSS winner was Steven Castellano from High Technology High School in Lincroft, NJ. His project examined the effect of video game playing on the visual attention skills of teenagers. Steven recruited groups of participants who either did or did not play video games. He then quickly flashed 1 to 10 white squares on a computer screen and had the participants report the number of square they saw. Video game players reported seeing more squares on average than non-video game players. Steven now has the notion that maybe he should play more video games! Other projects in the Intermediate division examined the effect of colored paper on memory, the effect of gender on memory for gender-specific items, and the effect of the golden ratio on the perception of facial attractiveness.

Sage Dalton, also from High Technology High School, won in the Upper BSS division with her research about how picture songbooks may increase the reading time of children 1 to 3 years old. She had the children participate in two trials where a certified Montessori teacher either sang a songbook or read a regular picture book. Sage timed the duration of reading interactions during each condition. In a study last year, she tested children in an unfamiliar environment and did not find a significant effect. This year Sage tested the children in a familiar environment and found that singing may increase the duration of reading interactions. Other projects in the Upper division examined the effect of music on Stroop task performance, the effect of classical music on studying, and whether certain personality traits are associated with birth order.

The South Jersey Chapter of the Human Factors and Ergonomic Society awarded Steven Castellano with a \$30 gift certificate and Sage Dalton with a \$50 gift certificate. Clair McKittrick won in the Junior BSS division and received a \$20 gift certificate. (You may remember Clair's presentation to the chapter last year when she discussed her research on cockroach behavior.) We have invited all three of the BSS winners to present their projects at a future chapter meeting.

## Membership News

By Alissa Jacobs

### New Members Welcome

The South Jersey Chapter (SJC) of the Human Factors and Ergonomics Society (HFES) happily welcomes Mary Lou Hagan. Mary Lou is a Pilot with Instrument/Commercial Rating for both single and multi-engine land airplanes and a FAST TEAM Representative for the Philadelphia FSDO. For the past seven years, she has worked as a simulation pilot for SRC/Titan/L3/Engility. Her work in this area has extended to mechanical repair and computer hardware as

well. Mary Lou has also run a municipal bus terminal, tour bus company, and U.S. Mail contractor trucking company.

Heather Milecki, a Research Associate at Battelle, recently joined the HFES South Jersey Chapter in late 2006. As part of the Human Factors Division in Battelle's Atlantic City Office since 2005, Heather has been involved in a range of research projects on Aviation Security evaluating the effectiveness of explosives detection technologies and threat resolution procedures. Prior to joining Battelle, Heather received her Bachelor's degree in Human Factors Psychology from Embry-Riddle Aeronautical University in 2005. While at Embry-Riddle, Heather performed ergonomic assessments for multiple companies including the Daytona Beach Fire Department and a Toyota dealership.

### Membership Report

Current membership for 2007 is at 22. This includes 21 membership renewals and one new member. Membership dues for 2007 are \$10. If you are interested in joining SJC HFES, you can visit the Chapter website (<http://www.sjhfes.org/>) to submit your dues via PayPal or you can mail \$10 to:

Alissa Jacobs  
Battelle Atlantic City Operations  
2900 Fire Road, Suite 201  
Egg Harbor Twp, NJ 08234

## Treasurer's Report

By Kate McDevitt

As of the Executive Council meeting on March 13, 2007, there was \$777.50 in checking, \$357.72 in savings, and \$50.00 in petty cash for a total balance of \$1185.22.

## Upcoming National Events

### **April 16-18, 2007**

2007 FAA Worldwide Airport Technology Transfer Conference and Exposition - New Directions in Airport Technology  
Atlantic City, New Jersey  
<http://www.airporttech.tc.faa.gov/naptf/att07/>

### **April 22-26, 2007**

2007 International Symposium on Aviation Psychology  
Dayton Convention Center  
Dayton, OH  
[www.wright.edu/isap](http://www.wright.edu/isap)

### **April 27-29, 2007**

22<sup>nd</sup> Annual Society for Industrial and Organizational Psychology  
Marriott Marquis  
New York, NY  
[www.siop.org/conferences/default.aspx](http://www.siop.org/conferences/default.aspx)

**April 28 – May 3, 2007** – CHI 2007, San Jose, CA <http://www.chi2007.org/>

**May 8-10, 2007:** ATCA/FAA/NASA Technical Symposium, Atlantic City, NJ. See [www.atca.org](http://www.atca.org) or contact [gail.hanline@atca.org](mailto:gail.hanline@atca.org).

### **May 24-27, 2007**

Association for Psychological Science (APS) Annual Meeting  
Washington Hilton  
Washington, DC  
<http://psychologicalscience.org/convention/>

**July 22-27, 2007** – 12<sup>th</sup> HCI International, Beijing, China <http://www.hcii2007.org/>

**August 17-20, 2007** - 112th Annual Convention of the American Psychological Association, San Francisco, California  
[www.apa.org/convention](http://www.apa.org/convention)

### **October 1-5, 2007**

HFES Annual Meeting  
Baltimore Waterfront Marriott Hotel  
Baltimore, MD  
<http://www.hfes.org/Web/HFESMeetings/meetings.html>

# Member Publications

By Todd R. Truitt

Our members are active participants in the human factors community. Many of them have the opportunity to publish papers and present at conferences. If you had a publication or presentation during 2006 that you would like other chapter members to know about, please send me the citation and abstract and I will publish the information in this column.

Ahlstrom, U. *Availability and Operational Use of Weather Information by En Route and Terminal Controllers*. DOT/FAA-TC-TN-07/01. William J. Hughes Technical Center, Atlantic City, NJ. <http://www.tc.faa.gov/its/worldpac/techrpt/tctn071.pdf>

### Abstract

Future air traffic control concepts include many new roles and responsibilities among controllers, air traffic management, pilots, and flight dispatchers. An important aspect of future concepts specifically aims at mitigating operational constraints caused by adverse weather conditions. Therefore, it is important to evaluate the current weather information available to these operators to assess future weather requirements for National Airspace System operations and safety. In the present paper, I compare and contrast the procedural requirements in Federal Aviation Administration Order 7110.65R that en route and terminal controllers follow when they use weather-related information. I summarize what weather information is available at the controller workstation and outline how controllers use this information operationally.

# Highlights of Recent Executive Council Meetings

By Karen Peio

January - March 2007 12 pm

**Council Members:** Kenneth Allendoerfer, Todd Truitt, Ferne Freidman-Berg, Bob Muldoon, Alissa Jacobs, Kate McDevitt, Phil Holmer, and Karen Peio.

### • Program

– Current schedule for activities is on website calendar.

March 14 - Todd Truitt presentation

March 17 – Science Fair SJHFES will award gift certificates to winners in three grade categories. Kenneth, Ferne, and Todd will act as judges for the event.

April – Bob Muldoon presentation

May – Alissa Jacobs presentation

June – Open

July – Tentatively Science Fair Winner Presentations.

August – Picnic

September – People going to HFES?

October – Tentatively Dave Kraus presentation

November – Open

December – Holiday Party

### • Membership

Fifteen members have renewed or joined the SJHFES for 2007.

### • Nominations

No activity report.

### • Treasury

As of March 13, the chapter has \$1185.22. That is, \$777.50 in checking account; \$357.72 in savings, and \$50.00 in petty cash.

### • Publications

Materials for the Interface are due to Todd Truitt by March 26, 2007. Publication is planned for March 30, 2007.

### • New Business

January 17 – Kenneth demonstrated the sjhfes.org web site.

February 13 – Open discussion regarding Community Outreach activities in the future.

March 13 - Ferne Friedman-Berg conducted a discussion regarding World Usability Day (November 8, 2007) and potential activities for chapter consideration including student (grades 7-12) involvement.

On-line Pay Pal is operational.

- **Next Meeting** - April 10, 2007 Executive Council lunch time meeting.

# Human Factors Job Listings

### Z-TECH CORPORATION:

Z-Tech's User Systems Integration and Design Division, is currently looking for a Human Factors Engineers to support our California Operation. The position is located in the Silicon Valley area of California, however some consideration is currently being given to supporting the west coast operation from our Galloway NJ office.

Z-Tech, Corporation, a minority-owned firm, is a leading provider of Information Technology, Systems Engineering and Health Sciences solutions for Government and commercial clients. Z-Tech is an SBA-certified 8(a) company and is also certified as a Minority business enterprise (MBE) with the State of Maryland. Founded in 2000, Z-Tech has grown rapidly and today has more than 250 personnel and revenues of more than \$35 million. We provide a diverse range of technical and professional services to help our clients meet their business objectives through the practical application of technology. Our strong management team, excellent client performance, and key strategic partnerships are

the foundation of success and will continue to be in the future.

Z-Tech Corporation offers an extensive benefits package to our full-time employees. Our comprehensive plan is intended to assist employees and their families, as well as reward service and foster team commitment and personal growth among our employees. Z-Tech is an Equal Opportunity Employer committed to workplace diversity. All candidates will be considered without regard to race, color, religion, gender, age, national origin, marital status, sexual orientation, disability, or veteran status.

#### Job Description:

Identifies system design features and characteristics that adversely affect operators and maintainers. Applies human performance principles, methodologies, and technologies to the design of human machine systems and products. Develops and implements research methodologies 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 plan. Evaluates accompanying human performance concerns and issues then designs and conducts R&D to evaluate potential solutions including changes in equipment design, procedures, manpower, personnel, and/or training. Performs engineering design and analyses of complex security and aviation security related systems to determine potential for further development, production, interfaces to other systems, and usefulness in the aviation environment. Writes, reviews, and comments on test plans and procedures; performs test assembly, conducts test, collects test data, witnesses test performance; prepares test/program assessment

reports; briefs government on ongoing activities; interviews government and non-government people in order to improve system engineering knowledge. Has good communication skills and, with moderate supervision, is able to write project documents, including project plans, test plans and procedures, data analysis reports, and project final reports. Has experience in data collection, analysis, and presentation.

Basic Qualification Guidelines: A Bachelors degree or higher in human factors, experimental psychology or other relevant discipline from an accredited college or university. Experience that demonstrates a professional knowledge of identifying system design features adversely affecting operators and maintainers as well as identifying solutions involving manpower, personnel, training, and/or human factors engineering is preferred but we will consider a new graduate.

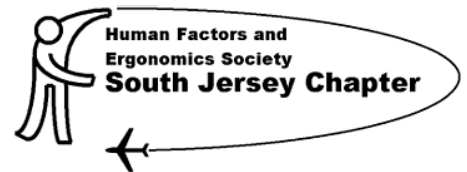
Please contact either Ron Lyons, Ray Oyung or visit our website at [www.z-techcorp.com](http://www.z-techcorp.com) and click on the careers link.

Ron Lyons  
[rl Lyons@z-techcorp.com](mailto:rl Lyons@z-techcorp.com)  
 609.404.0135  
 Ray Oyung  
[royung@z-techcorp.com](mailto:royung@z-techcorp.com)  
 415.317.0297

## Call for Submissions

By Todd R. Truitt

As your HFES South Jersey Chapter Publications Chair, I am always looking for material to include in future editions of The Interface. The Interface is not just a way for the Executive Council to communicate information to members; it is also a means to share information among members and to promote our chapter and its members. We will publish just about anything related to human factors such as book or article reviews, summaries of recent publications, or descriptions of bad designs you have experienced. If you would like to submit materials for publication in The Interface, please send them to [todd.truitt@faa.gov](mailto:todd.truitt@faa.gov).



<http://www.sjhfes.org/>

### 2007 Executive Council

#### President

Kenneth Allendoerfer

#### President-Elect

Ferne Friedman-Berg

#### Secretary

Karen Peio

#### Treasurer

Kate McDevitt

#### Nominations & Elections Chair

Philip Holmer

#### Publications Chair

Todd R. Truitt

#### Program Chair

Bob Muldoon

#### Membership Chair

Alissa Jacobs

# South Jersey HFES Chapter Membership and Renewal Application

For the Year 2007

Applicant Name: \_\_\_\_\_ Date: \_\_\_\_\_

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

Organization/Company: \_\_\_\_\_

Mailing address: \_\_\_\_\_  
\_\_\_\_\_

Daytime phone: (    ) - \_\_\_\_\_

Evening phone: (    ) - \_\_\_\_\_

Fax number: (    ) - \_\_\_\_\_

E-mail address: \_\_\_\_\_

Endorsing SJC-HFES Member: \_\_\_\_\_

SJC HFES dues for 2007 are \$10. Make checks payable to the "Human Factors Society."

Submit applications and dues to:

Alissa Jacobs  
Battelle Atlantic City Operations  
2900 Fire Road, Suite 201  
Egg Harbor Twp, NJ 08234

