Multimodal Navigation Cues for US Air Force Ground Forces

Earlier this year, Dr. Christopher Brill and Veronica Scerra (a second year master’s student) from the Department of Psychology (Human Factors) participated in a highly competitive research project as a part of a US Air Force program. They explored alternative ways for presenting navigation cues to the US Air Force Ground Forces. The research was funded by the American Society for Engineering Education. “This year they funded only two spots from a pool of 1200 applications. We are extraordinarily lucky to have had this opportunity,” said Brill.

The project’s main purpose was to explore how to minimize information overload during a navigational process in a new environment. According to Brill, navigating in a new environment is typically reliant on visual cues (maps, or visual displays). However, this becomes an issue if the new environment is dangerous. “If there is an explosion or a fire, you don’t want to take your eyes off of the battlefield. If you are looking at a display you cannot be simultaneously scanning for potential threats,” says Brill. The specific project they worked on was comparing spatial audio vs vibrotactile display cues in order to determine which facilitates a better learning environment with fewer errors. Overall, more emphasis was put on testing the vibrotactile display system. The main experiment was a simulation in which actual people had to navigate through virtual Kandahar (Afghanistan). In the scenario for the experiment, they used actual battlefield events such as a helicopter being shot down or car explosion going off. The instruction for the soldier in the experiment was to get to the scene of the explosion as quickly as possible. As means of navigation, the participants had to use tactile cues in addition to their visual and sound cues.

“The tactile display is a very intuitive system,” Brill said. It is essentially a belt which produces different levels of vibration. If the buzz on the belt is in front of the body, that would mean that where the person is trying to get is right in front of them, even if they can’t see it. If the location is behind them, the belt will vibrate on the back. Essentially the tactile display draws a vector point for the soldier to follow.

Veronica Scerra’s work was mainly focused on the simulation part of creating virtual Kandahar. She worked with engineers and programmers on site in order to best utilize the environment rendering program available for the research. The main challenge was to populate the virtual map of Kandahar and make it as realistic as possible. “I plotted out the different paths and objects in the environment and spaced them so they were an accurate representation of objects across the paths in Kandahar,” said Scerra.
CV Workshop
On October 19th, the GSO presented a CV writing workshop for all graduate students. With over 50 students and 7 faculty members, the workshop was a very successful event. Dr. Shelley Rodrigo, from the College of Arts and Letters, gave the main presentation, followed by break-out sessions with a representative from each college. “I found the one-on-one session with Dr. McKenzie (College of Engineering) very useful,” said Praveen Malali, a third year doctoral student in mechanical engineering. “I had prepared something between a resume and a CV before the workshop, and speaking to Dr. McKenzie helped me improve what I had. I don’t know that I would have been able to find such valuable pointers and advice in regards to my CV anywhere else,” Malali said.

CV workshop materials are available at: http://orgs.odu.edu/gso/CV_Resources.shtml

Graduate School Q & A Panel
Tuesday, January 15th from 12:30 p.m. to 2:00 p.m.
This event is intended for undergraduates considering graduate school. The panel will be led by current graduate students. Participation will involve sharing some of your experiences applying to (and attending) graduate school and answering questions posed by undergraduates. If you are interested in volunteering, please contact: monarchgso@gmail.com

Students Represent ODU at the National Communication Association Convention

The Master’s program in Lifespan and Digital Communication is the first graduate program of its kind in the history of ODU. Only a year old, the program has already sent students to a national conference. Communication faculty members (GPD-Dr. Thomas Socha, Dr. Jim Baesler, Dr. Gary Beck, Dr. Fran Hassencahl, and Ms. Alison Lietzenmayer) together with 10 of the students in the program (Jessica Bedenbaugh, Nicholas Benson, Alma Caldwell, Shih-Yi Hsia, Alice Jones, Christian Kendall, Brian Lindholm, Lisa Ponche, Iva Stoyneva, and Alfredo Torres) presented a joint-ly-authored paper exploring an innovative research methodology called Experience-Sampling Method, in the context of every day positive communication.

In the social sciences, ESM is considered to be an essential methodology to measure and describe variations in self-reports of experience processing. It is typically used to obtain data on frequency and patterning of daily activities, thoughts, thought disturbance and the emotional dimensions related to them. In this particular project, the researchers were aiming to find a pattern in everyday positive communication. More specifically, they were trying to measure happiness disposal in everyday life (compliments, laughter, jokes, etc.).

The students were playing multiple roles throughout the entire process: from research to paper acceptance. As part of their training, they served as both participants and participant observers in the study. Students had to record their positive communication experiences every day for a week, at particular intervals throughout the day. After the data was summarized and analyzed, they were also allowed to edit the final conclusions, thus bridging some gaps between what the paper states and their actual experiences. “Participating in this research project was very rewarding. It allowed me to experience the different aspects of a research process both as a subject, and a scholar,” said Alice Jones, second year student in the program.

Given the novice nature of the project and its methodology, the findings were presented during a panel designed for research studies in progress. The panel was mediated by an expert in the research area, who spent time with the presenters and give them personal feedback, tips on their work, as well as valuable suggestions on how to improve it in the future. “The typical advice for graduate students is to get their work out in the field. Start building a name for themselves,” Socha said. “This could be very scary to do, but it’s important to take that step. We did the project in this format in order to provide the students with an opportunity to construct the paper, see how to write it and submit it to NCA.”

During the convention, students also had the opportunity to network with specialists in their fields of interest, as well as learn about the latest research and trends in the diverse field of communications.

“NCA was a great opportunity to see practical research in action. It was exciting to interact with leaders in our field of studies as well,” said Christian Kendall, second year student in the program.
Global Certificate Program

According to the Department of Human Resources, in the past decade, the international student population at ODU has more than doubled. The number of domestic students who study abroad has also gone from a few to a several hundred a year. Often, foreign visiting scholars conduct their research and professional activities throughout ODU’s campus. To help meet the needs of those who work with ODU’s global population, the Office of International Programs and the Department of Human Resources have developed workshops on the issues and skills relevant to serving international students and scholars.

The Global Certificate Program seeks to help the university’s faculty, staff, and graduate assistants to develop and/or enhance skills for working with and learning from international students and researchers. All attendees will receive a certificate upon the completion of six sessions. Ten sessions are offered each academic year. For more information contact Sukhbaatar Delgerjargal (Degi) at: dsukhbaa@odu.edu

Can We Rebuild the Past Through Social Media?

Third year doctoral student in Computer Science, Hany SalahEldeen, presented a part of his dissertation during the Theory and Practice of Digital Libraries international conference in Cyprus in September of this year. The researcher proposed a model through which to detect and predict the social media user’s intention.

SalahEldeen became particularly interested in the subject through personal experience. About a year after the Egyptian revolution, he was giving small talks in a couple of universities and a high school in the area, in order to explain to people what happened in his home country of Egypt during that time. As he was gathering his information and slides for the talk, he found that a lot of articles and resources he wanted to use were missing, blocked or deleted from social networks. “A couple of tweets that were very significant a year ago during the revolution had disappeared from the Internet. Even articles from writers back home, prior to the revolution, were completely gone from the Internet right after the revolution,” SalahEldeen said.

This triggered a small experiment which attempted to explain what happened to that information. Questions that lead to the experiment were: how much of the missing information can be recovered from web archives and how much of the past can be recreated through social media? The results of the experiment were published in a Blogger article, which went viral. The article received more than 1200 hits in one day, which is very unusual for a small scientific article. The research was the first attempt of its kind to try and quantify missing data on social networks. The vast interest in the topic triggered further investigation, which ultimately led to a longitudinal study for SalahEldeen and his advisor Dr. Michael Nelson. The longitudinal research included analyzing social media data from events such as Michael Jackson’s death, President Barack Obama’s 2008 election, and the H1N1 outbreak.

The overall conclusion from the research is that after a year, about 10% of all social media datasets go missing.

The original Blogger article can be found at: http://ws-dl.blogspot.com/2012/02/2012-02-11-losing-my-revolution-year.html

ODU’s Philosophy Club

Amongst the diverse community of Old Dominion organizations and clubs, there is one that is most certainly one of a kind: ODU Philosophy Club. The membership of the club includes literature, political science, biology, humanities, women studies, and communication majors other than the ordinary philosopher. The club is open for graduate and undergraduate students. The current membership represents a diverse, dynamic set of belief systems that endorse no one correct way to think or analyze situations. The group has movie nights followed by critical discussions about philosophical underpinnings as well as Open Mic nights where a selected topic is discussed for several hours. Topics range from universal morality and ethics to interesting phenomena in science, and everything in between. If you are looking for a place to express yourself intellectually and critically analyze the world, ODU Philosophy Club offers exactly that. The club can be reached on our Facebook page by just searching “ODU Philosophy Club.” We hope to hear from you!

Best Wishes,
Tyler DeAtley, Club Treasurer
Dear students,
The Graduate Newsletter aims to inform you and help you get the best out of your graduate school experience by keeping you in touch with what is new and exciting in our community. We strive to promote interdisciplinary work, as well as conversations among students and faculty about the work that is being done on our campus. As the end of the academic year approaches, we would like to encourage you to send us your success stories, graduate organization news, presentations, publications, and questions or opinions on any matter that deals with your graduate education. We value your feedback, and we would like to know what you do, and what you, your colleagues and mentors are proud of. Send us your stories at: istoynev@odu.edu

We wish everyone a successful end of the semester and Happy Holidays!

Best,
Iva Stoyneva

Send Us Your Stories

SMITHSONIAN INSTITUTION FELLOWSHIPS

FIELDS:

- American History, American Material and Folk Culture, and the History of Music and Musical Instruments
- History of Science and Technology
- History of Art, Design, Crafts, and the Decorative Arts
- Anthropology, Archeology, Linguistics, and Ethnic Studies
- Evolutionary, Systematic, Behavioral, Environmental Biology and Conservation
- Earth, Mineral, and Planetary Science
- Materials Characterization and Conservation

ELIGIBILITY:

**Graduate Student Fellowships:** Applicants must be formally enrolled in a graduate program of study, must have completed at least one semester, and must not yet have been advanced to candidacy in a doctoral program. Fellowships allow research for ten-week periods.

**Predoctoral Fellowships:** Applicants must have completed coursework and preliminary examinations for the doctoral degree, and must be engaged in dissertation research. In addition, candidates must have the approval of their universities to conduct their doctoral research at the Smithsonian for a three- to twelve-month period.

**Postdoctoral and Senior Fellowships:** Postdoctoral applicants must have held the doctoral degree or equivalent for fewer than seven years as of the application deadline. Senior Fellowship applicants must have held the doctoral degree or equivalent for more than seven years as of the application deadline. Applications for senior fellowships may be made up to two years in advance.

**STIPEND:**

- Senior and Postdoctoral - $45,000 per year
- Earth and Planetary Sciences Senior and Postdoctoral - $50,000 per year
- Predoctoral - $30,000 per year
- Graduate Students - $6,500

APPLICATION DEADLINE: January 15 annually

FINANCIAL AID OPPORTUNITIES

**AMERICAN ASSOCIATION OF UNIVERSITY WOMEN EDUCATIONAL FOUNDATION SELECTED PROFESSIONS FELLOWSHIPS**

FIELDS:

- Architecture (M.Arch., M.S.Arch.)
- Computer/Information Sciences (M.S.)
- Engineering (M.E., M.S.)
- Mathematics/Statistics (M.S.)

Fellowships in the following degree programs are restricted to women of color, who have been underrepresented in these fields:

- Business Administration (M.B.A.) - applicants may apply for 2nd year of study only
- Law (J.D.) - applicants may apply for 3rd year of study only
- Medicine (M.D., D.O.) - applicants may apply for 3rd or 4th year of study only

**STIPEND:**

- Master’s and First Professional Degree Awards: $5,000 – $18,000
- Application Deadline: January 10, 2013

**JACK KENT COOKE FOUNDATION DISSERTATION FELLOWSHIP**

FIELDS:

Diverse range of academic disciplines (e.g., policy studies, economics, psychology, education). The topics must be tied to the Foundation’s mission: advancing the education of exceptionally promising students who have financial need.

ELIGIBILITY:

US citizens and non-citizens.

The Jack Kent Cooke Dissertation Fellowship Award supports advanced doctoral students who are completing dissertations that further the understanding of the educational pathways and experiences of high-achieving, low-income students. We seek to provide funding for doctoral candidates whose work informs and advances the following populations/aspects of our mission:

**High-achieving students from low-income backgrounds**, and/or students who demonstrate the potential for achievement, and/or the conditions that promote high achievement (e.g., school settings, interventions, policies).

**STIPEND:** $25,000

**DEADLINE:** February 4, 2013

**COMPUTATIONAL SCIENCE GRADUATE FELLOWSHIP PROGRAM**

FIELDS:

Scientific or engineering discipline, computer science and applied mathematics. The major field must fall in one of these categories, and the program of study must demonstrate substantial academic achievement in the other two.

**STIPEND:** $36,000 yearly stipend

**DEADLINE:** January 8, 2013

**ODU graduate student Iva Stoyneva completed and edited this newsletter with help from Dr. Brenda Neumon Lewis and the staff of the Office of Graduate Studies. You can contact Iva at:** istoynev@odu.edu

Graduate News is online at odu.edu/ao/gradstudies

Office of Graduate Studies