

IPCC 2009

International Professional Communication Conference

July 19-22 • Honolulu, HI



www.ieeepcs.org | IEEE Professional Communication Society

SCHEDULE AT A GLANCE



Sunday 19 July 2009

3:00 - 5:00	Registration	Coral 4 Lounge
5:00-7:00	Welcome Reception	Rainbow Suite and Patios

Monday 20 July 2009

8:00 - 9:00	Breakfast	Coral 4 Lounge
9:00 - 10:15	Conference Welcome and Keynote Address	Coral 5
10:15 - 10:45	Break	South Pacific Lounge and Nautilus Lounge
10:45 - 12:15	Conference Sessions	
	Session 1A - Putting the Pieces Together: Document Organization and Coherence	Sea Pearl 1/2
	Session 1B - Audience Needs: Globalization and Localization	Sea Pearl 3/4
	Session 1C - Engineers & TC: Work, Teaching, and Research	Sea Pearl 5/6
	Session 1D - Publishing in the Transactions for Professional Communication	Nautilus I
12:30 - 2:00	Sponsor Luncheon	Coral 4
2:30 - 4:00	Conference Sessions	
	Session 2A - IT's All Changing: Technology and Communication Practice	Sea Pearl 1/2
	Session 2B - Simply Put: Plain and Simplified Language	Sea Pearl 3/4
	Session 2C - Usability, Confidence, and Community	Sea Pearl 5/6
	Session 2D - Intercultural Communication for Beginners: Pedagogical Principles	Nautilus I
	Session 2E - IEEE Publishing	Nautilus II
4:00 - 4:30	Break	South Pacific Lounge and Nautilus Lounge
4:30 - 6:00	Conference Sessions	
	Session 3A - Recommendations for Best Practices	Sea Pearl 1/2
	Session 3B - Panel on Global Collaboration	Sea Pearl 3/4
	Session 3C - Improving Information Search, Retrieval, and Representation	Sea Pearl 5/6
	Session 3D - Systems Thinking and Knowledge Management	Nautilus I

Tuesday 21 July 2009

8:00 - 9:00	Breakfast	Coral 4 Lounge
9:00 - 10:30	Conference Sessions	
	Session 4A - Leadership Workshop	Sea Pearl 1/2

SCHEDULE AT A GLANCE

	Session 4B - Japan at Home and Abroad: Traditional Roots and Contemporary Issues	Sea Pearl 3/4
	Session 4C - Looking at Visuals	Sea Pearl 5/6
	Session 4D - Project Management and Workplace Communication	Nautilus I
10:30- 11:00	Break	South Pacific Lounge and Nautilus Lounge
11:00 - 12:30	Conference Sessions	
	Session 5A - Leadership Workshop	Sea Pearl 1/2
	Session 5B - Visual Design and User Behavior	Sea Pearl 3/4
	Session 5C - Content for the TC Classroom	Sea Pearl 5/6
	Session 5D - Project Management Panel	Nautilus I
12:45 - 2:15	Lunch with Speaker	Coral 4
2:45- 4:15	Conference Sessions	
	Session 6A - Teaching Engineering Communication Workshop	Sea Pearl 1/2
	Session 6B - Changing Communication Tools and Contexts	Sea Pearl 3/4
	Session 6C - Design: Menus, Interfaces, and User Experience	Sea Pearl 5/6
	Session 6D - Communication Pedagogy for Students in the Professions	Nautilus I
	Session 6E - Proposals	Nautilus II
5:00-8:00	Reception and Banquet	Rainbow Suite & Patios
Wednesday 22 July 2009		
8:00 - 9:00	Breakfast	Coral 4 Lounge
9:00 - 10:30	Conference Sessions	
	Session 7A - Active Learning and Activity Theory	Sea Pearl 1/2
	Session 7B - The Level Playing Field: Social Media and Their Users	Sea Pearl 3/4
	Session 7C - Research	Sea Pearl 5/6
	Session 7D - Workplace Narratives: Storytelling and Standards	Nautilus I
	Session 7E - Workshop on Implementing ISO 26514	Nautilus II
10:30 - 11:00	Break	South Pacific Lounge and Nautilus Lounge
11:00- 12:30	Conference Sessions	
	Session 8A - IPCC 2010	Sea Pearl 1/2
	Session 8B - Usability Methods	Sea Pearl 3/4
	Session 8C - English in Japanese Industry: Needs and Training Methods	Sea Pearl 5/6
	Session 8D - New Journal Launch	Nautilus I



Welcome to the 2009 IPCC conference in Honolulu! We are honored to have you with us in this beautiful Hawaiian setting where we have brought together practitioners and academics who contribute to the pursuit of excellence in technical communication. Po'okela means the commitment to excellence in the Hawaiian language, and by coming to these unique and wonderful islands we are bridging Eastern and Western ideas on how we can best define, measure, and achieve this excellence.

Organized annually by the IEEE's Professional Communication Society, IPCC provides an international forum for the exchange of ideas and research that advance the technical communication profession. By gathering together, we as a profession demonstrate our commitment

to the continued pursuit of knowledge and to the new ideas that will advance our profession in the years to come. We support the synthesis of knowledge from many different cultures and meet to discover new approaches to better serve our global community. We have learned a significant amount in the past few decades from each other and as professionals in the field of technical communication, and we are stronger because of our association. Our conference is an extension of our commitment to excellence and we hope that you will take away new ideas and solutions from this experience that will inspire you.

The mission of the IEEE Professional Communication Society is to foster a community dedicated to understanding and promoting effective communication in engineering, scientific, and other technical environments. To this end, we endeavor to:

- Advance technical and scientific communication as an essential element of engineering;
- Help engineers, scientists, and other technically oriented professionals to communicate better in the workplace--both in speaking and in writing, both verbally and nonverbally;
- Promote and disseminate best practices and research results on the development, maintenance, delivery, and management of technical content; and,
- Promote and facilitate leading-edge education and training of engineers, scientists, and other technically oriented professionals in communication theory and practice.

Our wide-ranging field of interest includes the study, development, improvement, and promotion of effective techniques for preparing, organizing, processing, editing, collecting, conserving, teaching, and disseminating any form of technical information by and to individuals and groups by any method of communication. It also includes technical, scientific, industrial, and other activities that contribute to the techniques and products used in this field. The specific areas encompassed by the field of interest include all forms of communication related to engineering practice, including:

- Electronic information (e.g., Web sites, CD-ROMs, interactive TV, online help)
- Technical proposals, reports and documentation



FROM THE CONFERENCE CHAIR

- Printed publications and oral presentations
- Electronic publishing
- User interfaces
- Usability evaluations

Our field of interest also includes the research and development of new techniques, the definition of professional standards, and the fostering of continuing education related to these activities.

Planning for IPCC 2009 started three years ago, and while we cannot hope to list everyone who contributed, we would like to recognize the contributions of the following key individuals:

- Program managers Sandy Bartell and Anneliese Watt have pulled together an extraordinary program that nicely balances our academic and research interests with more practical papers and workshops, ensuring that there is something of interest to everyone.
- Publications Chair Debbie Davy, who has produced the beautiful set of publications, creating a record that we will be proud to share with others in our field of professional communication, as well as with the larger engineering audience through IEEEExplore.

We are grateful also to our program sponsors IPCC 2010, Author-it, and IEEE-USA, without whose support IPCC2009 would not have been possible.

Finally, we would like to thank you, our presenters and attendees. By joining us here you have shown a commitment to learning, to sharing, and to supporting our profession in a very real and tangible way. Please enjoy not only the conference, but also the lovely venue of our Hawaiian hosts.

Aloha and Welcome.

Brenda Huettner
IPCC 2009 Conference Chair

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SESSIONS AT A GLANCE



Sunday 19 July 2009

3:00 - 5:00	Registration	Coral 5 Lounge
5:00-7:00	Welcome Reception	Rainbow Suite and Patios

Monday 20 July 2009

8:00 - 9:00	Breakfast	Coral 4 Lounge
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10:45 - 12:15	Conference Sessions	

Session 1A - Putting the Pieces Together: Document Organization and Coherence

Sea Pearl 1/2

Dialogue and Monologue: A Practice of Producing a Coherent Document

Sayuri Yoshizawa, Yasushi Kambayashi

Abstract: It is well known that, for second language learners, producing a coherent piece of documentation is a difficult task. It is especially true for Japanese who often use ambiguous expressions in their writings. One source of this ambiguity comes from Japanese culture, where everybody is (theoretically) expected to have the same background which would enable all readers to disambiguate a text. Personal idiosyncrasies in interpretation do persist, even among those who have the same cultural background. This is the greatest obstacle to clear technical communication. Another source of ambiguity in technical texts lies in the omission of premises essential for deploying a logical explanation. The present research evaluates the effectiveness of the reader/writer dialogue method for discovering the flows of logic, others' alternative interpretations and for developing readers' viewpoints necessary to break or bridge their differing interpretation frameworks.

Principles of Segmentation in Procedural Instructions

Michaël Steehouder, Vincent Lig

Suggestion of structure: an experiment with transition sentences

Bas A. Andeweg

Abstract: Readers can skip words or track back to an earlier point in the paragraph; listeners have to rely on the speaker to provide them with help to build a coherent structure of the message. In general it is recommended that a speaker should make the transition between topics explicit by using transition sentences. Such sentences bridge ideas and aid understanding. This paper investigates whether the use of transition sentences has the effects that modern advisors predict. Does the use of transition sentences result in a more coherent representation of the message of the speaker and in a higher appreciation of the speech itself? To explore these questions three variants of one 13-minute lecture were constructed; the only difference among the three was the presence (and place) of a series explicit transition sentences. The results show that the power of such sentences is restricted. But – when well placed – they enhance the perception of the presentation by the audience.

1B - Audience Needs: Globalization and Localization

Sea Pearl 3/4

Multimedia and Culture: Globalization vs. Localization of World Music Videos in the Internet Age

Irini K. Spyridakis

Abstract: This paper examines how world music artists globalize or localize multimedia in order to target world audiences. Some world music artists use exotic images in their music videos to market their work across cultures with the hope of the "other" being the key appeal. Other artists use international images to target a global market. In both cases, these music artists make only one product with the goal of targeting a global audience; they do not make

localized versions of their videos for different markets. Such an approach may provide an alternative view for technical communicators who might maintain that products should be localized in order to meet the needs of specific audiences.

Asking Internet Users to Explain Non-Use in Kyrgyzstan

Chad Driesbach, Rebecca Walton, Beth Kolko, Aidai Seidakmatova

Abstract: Explanations for slow adoption of the Internet in developing countries tend to break down when examining specific populations or fall into overly broad commentary that doesn't really allow for meaningful interpretation. In Central Asia, and specifically Kyrgyzstan, Internet adoption seems to be tapering off well below saturation levels. Survey data helps to explain why this is happening, but offers too much of a bird's eye view to really understand what using and not using the Internet means. In depth interviews with Internet users give a clearer picture of how to define Internet use in Kyrgyzstan, and why some people are adopting ICTs and why others aren't.

Mobile phone users in Kyrgyzstan: A case study of identifying user requirements for diverse users

Cynthia Putnam, Emma Rose, Rebecca Walton, Beth Kolko

Abstract: Mobile phones are widely recognized as a potentially transformative technology platform for developing nations. However, for designers and programmers in the developed world to create viable applications for mobile phones involves first identifying and communicating user requirements for diverse users. We define diverse users as those from a substantively different cultural context than that in which the technology design occurs, including developing regions. This paper presents a case study outlining our process of using data from prior research to (1) identify a tenable mobile phone product concept for mobile phone users in Kyrgyzstan; (2) detect and communicate user requirements for that product concept to a design team; and (3) develop a working prototype of the concept for usability testing. Our resulting concept meets important user needs and goals for mobile phone users in Kyrgyzstan. We believe the process by which we developed and discuss these user requirements and the subsequent prototype can serve as an example to others concerned with creating user-centered products and services for diverse users including those in developing countries.

1C - Engineers & TC: Work, Teaching, and Research

Sea Pearl 5/6

The Work of Writing: Lessons From Literary Engineers

Tom Moran

Abstract: As engineers and former engineers, eight creative writers – novelists, poets, and short story writers – were asked what they would tell young engineering students about the importance of writing to their futures in engineering. Also, as successful literary writers, the eight were asked what they would tell those same students to help them improve their writing. The results provide writing and engineering educators with several suggestions as to how they might help students see the importance of learning solid writing skills. The responses also offer several approaches that can be used in technical writing and engineering classes to help develop and hone students' writing prowess.

Teaching Technical Communication to Professional Engineers and Architects in the U.S.

Don Cunningham

Abstract: Licensed professional engineers and architects in the U.S. must meet education and experience requirements and pass rigorous exams administered by state licensure boards before offering their services directly to the public. State licensure is also required if an engineer works as a consulting engineer, signs and seals documents for public agencies, or establishes their own firm. Individual state boards have different requirements for professional licensure, but most are similar.

SESSIONS AT A GLANCE



Thirty states in the U.S. require mandatory continuing education for licensed engineers. Thirty-two jurisdictions currently require architects complete continuing education. The number of Continuing Education Units (CEU) or Professional Development Hours (PDH) required for license renewal varies by jurisdiction. Correspondence, distance learning, and online courses are accepted by all states requiring continuing education activities for licensing renewal provided the course meets the guidelines and completion of the course can be independently verified.

During the past two years, the author has developed and presented two specialized continuing education programs in technical communication, Technical Writing for Engineers and Writing Construction Specifications. Sixteen state licensure boards have reviewed and approved the seminars for CEU or PDH credits for professional engineers who need to fulfill their continuing education requirements. This paper examines the development process and course emphases for the seminars, as well as responses from licensed professional engineers and architects who have attended the seminars.

Elements of Effective Communication: Results from a Research Study of Engineering Faculty

Richard House, Anneliese Watt, Julia M. Williams

Abstract: This paper offers a brief overview of the Mapping the Future of Engineering Communication Project, a larger research study conducted by the authors. A national survey of engineering educators yielded 137 responses, supplemented with a focus group of nine engineering educators conducted at the 2008 Frontiers in Education Conference. The study explores multiple aspects of the ways in which engineers incorporate communication tasks into their engineering courses in the wake of the adoption of EC2000 standards by the ABET/Engineering Accreditation Council.

This paper focuses on a particular set of survey and focus group responses that asked respondents to define the elements of effective communication. The criteria asset out in the survey are mapped against the elements of Lloyd Bitzer's rhetorical triangle. The elements explore include 1) technical content, 2) audience accommodation, 3) writer's ethos and purpose, and 4) genre conventions and proper format.

1D - Publishing in the Transactions for Professional Communication Nautilus I

How to Publish in IEEE TPC

Jo Mackiewicz

12:30 - 2:00 Sponsor Luncheon

Coral 4

2:30 - 4:00 Conference Sessions

Session 2A - IT's All Changing: Technology and Communication Practice

Sea Pearl 1/2

The Language and Rhetoric of Bibliographic Citation in the Field of Computing: A Report of Preliminary Results

Thomas Orr, Dongxue Ma

Abstract: This paper describes a preliminary investigation of bibliographic citation practices in the field of computing, based on linguistic and rhetorical analyses of 1,255 citations in 36 academic papers from four representative journals in the field: IEEE Transactions on Software Engineering, IEEE Transactions on Dependable and Secure Computing, IEEE Transactions on Parallel and Distributed Systems, and the IEEE Transactions on Computers. Rhetorical functions of the citations are identified, along with representative examples of the language that is used to achieve the rhetorical goals. The data is then discussed in light of current bibliographic citation instruction, and recommendations are made for developing better training for novices and non-native speakers of English who need more specific than is normally available.

What do Movable Type and XML Have in Common?

Sarah O'Keefe

Cloud Computing Is Changing How We Communicate

Rich Maggiani

Abstract: Cloud computing refers to a network that distributes processing power, applications, and large systems among many computers. Social media channels and many other applications use cloud computing as their platform. But cloud computing goes beyond that, offering a way for people to expand their local computing power onto the (seemingly) infinite processing power of the Internet. One of the results is a changing method of communication. Cloud computing can be a single-function application, an infrastructure on which these applications (and many others) can run, a set of services that offer the advantages of huge amounts of computing resources, and the ability to store large amounts of data remotely. Many companies and educational institutions are just beginning to realize the benefits of cloud-based applications that have traditionally required site licensing, installation, and maintenance. Cloud computing, SaaS, software as a service, social media.

Session 2B - Simply Put: Plain and Simplified Language

Sea Pearl 3/4

Exploring Plain Language Guidelines

Raquel Harper, Don Zimmerman

Abstract: Based on the last National Assessment of Adult Literacy survey (2003) conducted by the U.S. Department of Education's National Center for Educational Statistics, an estimated 43% (93 million) of the U.S. adults age 16 and older has below or basic literacy skills. Many government agencies adopt a policy of using plain language guidelines when preparing documents for the public. This study used the Delphi Technique to explore how government health communication professionals (n=11) define "plain language" and what they consider to be the main guidelines for writing in "plain language." Participants agreed on only six plain language items throughout the study: (1) Write for audience's level of understanding of the subject matter, (2) Write for the literacy level of the target population, (3) Present information in a logical order, (4) Use simple sentence structure, (5) Define unfamiliar concepts, and (6) Use correct grammar and sentence structure. No standard exists on how to write in plain language for health care documents, which may be why health communicators have varied ideas on what plain language means and what guidelines should be followed.

Effectiveness of Plain Language in Environmental Policy Documentation for the General Public

Katie Derthick, Natasha Jones, Randy Dowell, Justin McDavid, David Mattern, Jan Spyridakis

Abstract: Several government agencies have been calling for the improvement of the quality of environmental policy documents through the implementation of principles drawn from Plain Language guidelines. Many of the writers who have been tasked with implementing such principles have expressed ongoing doubts about the guidelines' effectiveness in making documents easier for the public to comprehend and trust. Our research seeks to discover whether implementing some specific Plain Language guidelines influences the comprehension and perceptions of readers of environmental policy documents.

Lost in Translation: Applications of Simplified English in Academia

Nikki S. Scheuermann, Tamara M. Powell, William Randall

Abstract. This study applies Simplified English to the standard academic document known as the policies and procedures manual. An additional portion of this study compares data and draws conclusions between an etymological breakdown of the original sample and the Simplified English sample. The application of Simplified English to academic policies and procedures documents produced a more effective and concisely comprehensive document. The resulting improvements, if put into practice, would benefit faculty, staff, and students

by producing shorter documents, thereby saving money. The improvements would also increase readability and comprehension. As a result, applying Simplified English to academic documents would increase the likelihood that faculty, staff, and students would actually read and understand the important document. The increased clarity in these documents after exposure to Simplified English would reduce legal liability resulting from lack of reader comprehension.

Session 2C - Usability, Confidence, and Community

Sea Pearl 5/6

Effects of Information Usefulness, Visual Attractiveness, and Usability on Web Visitors' Trust and Behavioral Intentions

Myrthe Swaak, Menno de Jong, Peter de Vries

Abstract: To explore the effects of information usefulness, visual attractiveness and (actual and perceived) usability, an experiment was conducted in which 40 customers visited the website of a Dutch Internet hosting company. Half of the participants were given search tasks (condition 1), the other half were allowed to explore the website without such a task (condition 2). The participants had to think aloud in both conditions. Afterwards, they judged the website's visual attractiveness, the usefulness of its content, and its usability, as well as answered questions about their trust in the company and their behavioural intentions. The results underline the importance of an effective web presence for organizations: 27% of the variance in the participants' trust in the company was explained by the website characteristics included in this study; on top of the participants' trust in the company, the website characteristics explained another 15% of the variance in participants' intentions regarding the company. Of the website characteristics included, both usability and visual attractiveness had a significant relationship with the participants' trust in the company.

Boosting Seniors' Confidence by Enhancing User Instructions

Nicole Loorbach, Joyce Karreman, Michaël Steehouder

Abstract: This paper describes a study on enhancing user instructions to boost seniors' (60 - 70 yrs) confidence in using instructional texts. We developed one basic and two enhanced versions of user instructions for a cellular telephone. The first enhanced version contained control steps - where possible - so users can check if procedures were performed correctly. The second enhanced version contained personal stories (both anecdotes and testimonials) that describe how a 68-year-old woman struggled a bit with the instructions, but always succeeded in reaching her goal. We used the plus-minus method to measure seniors' reactions to control steps and personal stories in user instructions. The results show that although control steps do not particularly stand out in enhanced user instructions, a vast majority of seniors (95%) do value them positively. Personal stories stood out more than control steps, but were valued positively by fewer seniors. Still, a majority of 65 percent suggested including such stories in user instructions. As a next step, we will conduct an experimental study to test for the individual effects of control steps and personal stories on seniors' confidence, on their motivation, and on the usability of the user instructions.

Session 2D - Intercultural Communication for Beginners: Pedagogical Principles

Nautilus I

Writing Across Cultures: Basic Principles for Novice Intercultural Writers

Mathew McCool

Abstract: This paper begins by distilling the complexities of intercultural writing into two basic concepts—writer responsibility and reader responsibility. Writer responsibility is characterized by its clear, concise, and analytical prose. A prime characteristic of writer responsibility is a tight overlap between sentences. This may be expressed symbolically as AB to BC. When miscommunication arises, the responsibility rests with the writer. On the other end of the spectrum is reader responsibility. Reader responsibility is characterized by its flowery, ornate, and even holistic prose. In this instance, the responsibility for miscommunication is usually aimed at the reader. Unlike writer responsibility, reader responsibility avoids moving a topic



SESSIONS AT A GLANCE

from one sentence onto the next. This may be expressed symbolically as AB to CD. While no writer is fully writer responsible or reader responsible, this difference provides a valuable tool for people who need to write for another culture.

Two Courses, Two Problems, and Project E-xchange: International Collaboration to Enhance Cross-Cultural Communication

Tomoko Shimmura, Scott Clark

Abstract: In two academic years (from December 2007—March 2008, and December 2008—March 2009), students studying English at a Japanese university and about Japanese culture at an American university exchanged messages in small groups through electronic media to improve their communication skills and knowledge of culture. This paper reviews the project, outcomes, improvements, and its possible future application.

Session 2E - IEEE Publishing

Nautilus II

IEEE Publishing Panel

Chris McManes, Evelyn Hirt, Georgia Stelluto

4:00 - 4:30 Break

South Pacific Lounge and Nautilus Lounge

4:30 - 6:00 Conference Sessions

Session 3A - Recommendations for Best Practices

Sea Pearl 1/2

Finding and Learning: Exploring the Information Management Practices of a Technical Communicator

Stewart Whittemore

Abstract: One of the key challenges of contemporary knowledge work is how to productively manage the information load created by the proliferation of information technologies in contemporary workplaces. Technical communicators are particularly affected by this challenge because they are often called upon to take a public role in managing information for their work teams and organizations in activities ranging from taking meeting notes to organizing network files. This paper explores the findings from a case study of a single technical communicator engaging in such information management work. This case was assembled as part of larger six-month case study exploring the contributions made by the memory practices of a team of technical communicators in a software firm to the intentional and creative work of the firm. The findings from the case reported here suggest that technical communicators do in fact spend a great deal of time and energy managing information, but that the tools they use to accomplish these activities may not always be effective and may in fact impede the completion of other important job responsibilities, such as researching and composing.

Technical Reviews: Best of the Best Practices

Jill Holdaway

Abstract: Frames, which are cognitive metaphors for structuring our experiences and understanding of the world, can be transferred to others to structure their experiences, and thus to influence their understanding of the world. Though the process of developing and transferring frames is usually applied to the political and marketing worlds, it also applies to any domain where we want to influence others. As applied to best practices for reviews of technical documentation, this process can be used to change attitudes about technical reviews to benefit reviewers, information developers, and ultimately customers who rely on technical documentation to learn about technologies and complete tasks with software products. This paper discusses framing in general and how it can be applied to several areas of the technical review process.

Improving Software API Usability through Text Analysis: A Case Study

Robert B. Watson

Abstract: Technical writers who want to be more involved in the earlier stages of software product development must often find ways to demonstrate how their skills can benefit

the initial design process. This case study describes how the application of technical communication skills and tools helped improve the usability and clarity of a new application program interface (API) by performing a text analysis of the API elements. The case study presents the theory upon which this approach is grounded and describes how the theory was applied to analyze a specific API. The paper concludes with a review of how this analysis method could be transferred to other projects and how the tools used in this analysis can be applied to benefit the design, development, and documentation processes of APIs.

Session 3B - Panel on Global Collaboration

Sea Pearl 3/4

Panel: Academic Excellence Through Global Collaborations

Marj Davis, Yvonne Cleary, Helen Grady, Thomas Orr, Julia Williams

Session 3C - Improving Information Search, Retrieval, and Representation

Sea Pearl 5/6

QuikScan: Facilitating Reading and Information Navigation Through Innovative Document Formatting

Quan Zhou, David Farkas

Abstract: QuikScan is an innovative document format aimed at facilitating reading and information navigation in documents. It employs multiple within-document summaries formatted as numbered list items to summarize the gist of each section of a document. The presence of the summaries, with a fine level of granularity, enables readers to skim for the superordinate ideas of each section and locate particular items of information quickly and efficiently. This paper focuses on an empirical study of information navigation with QuikScan. Forty participants completed timed information navigating tasks using either a QuikScan or control version of a document with conventional formatting. This study demonstrates intriguing and important findings. Those who read QuikScan were able to locate the superordinate content items significantly faster with a significantly higher accuracy rate. However, QuikScan readers did not perform better on items of lesser importance than those who read the control version.

The Relevance of Information Scent to Information Seeking on the Web

Sue Warcup, Don Zimmerman

Abstract: Based on information foraging theory, the study addressed four research questions and five hypotheses. Participants (N=24, randomly assigned to one of four groups of six participants each) searched for information about different content (skin cancer and heart disease) within two different Websites, one containing high scent links and one containing low scent links. This experiment demonstrated that high information scent Websites significantly decreased perceived task complexity and time on task and increased task accuracy. Conversely, perceived task complexity was not found to be significantly lower in Websites with high information scent. User preference was not significantly higher in Websites with high information scent.

Principles for Creating Good Information Representation

Keiichi Abe

Abstract: In this paper, I propose principles for good representation of information applicable to six categories of communication: speeches, written texts, presentations, Web pages, movies/videos, and source programs. For each of these categories, many tips have been proposed for creating good information representation. The meaning of good information representation can be interpreted in two ways: as attractive or impressive, and effective in conveying facts and opinions. Although these two ways cannot be said to be independent of each other, I focus here only the latter. The need to establish explicit principles for good information representation is urgent, because information must be transmitted accurately (without loss of fidelity). Bad information representation is proliferating at a rapid pace because of the Internet.

There are common and general principles among the six categories of communication:

1) fitness for the goal and receivers, 2) structural coincidence between contents and form, 3) simplicity, 4) hierarchy, 5) disambiguation, 6) consistency, 7) agreement with conventions, 8) continuity, 9) making blocks of information, 10) threeparts configuration of a block, 11) directness, and 12) portability. Specific and illustrative examples of those twelve principles are presented in detail in this paper.

Session 3D - Systems Thinking and Knowledge Management

Nautilus I

Change Agents and Systems Thinking: The Non-Revolution in Management Rhetoric

Richard House

Abstract: This paper provides a history of popular literature on business management, focusing on the way in which authors have addressed and recommended corporate change. Early texts focused on procedural changes to improve efficiency and productivity, while portraying themselves as “revolutionary.” Many business bestsellers of the last 20 years, on the other hand, have advised fundamental revisions to corporate missions, but have presented their project as one of incremental reform. The most recent texts, within the discourse of change management, reveal a strong tension between an emphasis on a culture of continual change and a recognition that such change is necessarily circumscribed by defining aspects of the organization in which it’s proposed.

Tacit Knowing and Presentation: The Gateway to Complexity

Valerie Anne Wilkinson

Abstract: Tacit knowing, first articulated in 1966 by the physicist Michael Polanyi, is the knowledge encoded in the whole person. As such, it forms an object of scientific inquiry via such disciplines as cognitive science, developmental psychology (Vygotsky, Piaget), and cybernetics (Wiener, Bateson). It is also the means by which we propose that freshmen and sophomores gain skills to give presentations. The presentation is an example of a peak communication performance, counted among the “soft skills”. Mastery is attained in a complex learning process which is an integration of materials, media, and content. Learning and integration occur through the actions of organizing, practicing, and presenting by the student. As first and second year students of technology and engineering get experience giving presentations about their extracurricular experiences rather than their specialty, they are concurrently creating a cognitive map, supported by their peers in the academy, of the shape of organizational experience. The map includes “people skills” such as team learning, planning, executing, and evaluating. Campus events and clubs, like all human organizations, are complex adaptive systems (CAS), structurally similar to all “Learning Organizations” (LO), which are non-linear process structures in environments. Experience is the gateway for students of engineering and technology to add procedural “know how” and an indexed map of complexity to their academic specialty, which will be invaluable in their future work in multidisciplinary cooperative research and development teams.

Using MAS to Determine the Audience for Engineering Documents

Takashi Okuda

Abstract: Many books on preparing engineering documents tell us that the first and most important step is audience analysis. While we agree that audience analysis is important, do we have the appropriate tools and techniques for analysis? Surveys can be effective tools for audience analysis, but identifying the audience is a problem—not only because the audience can be drawn from a globalized and diversified society, but also because the audience often consists of people of different nationalities and cultural backgrounds. However, any attempt at audience identification is better than none. In this paper, I present a method to identify the audience using a multi-agent system (MAS) when preparing engineering documents.

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SESSIONS AT A GLANCE



Tuesday 21 July 2009

8:00 - 9:00 Breakfast

Coral 4 Lounge

9:00 - 10:30 Conference Sessions

Session 4A - Leadership Workshop

Sea Pearl 1/2

Part 1

Brenda Huettner

Session 4B - Japan at Home and Abroad: Traditional Roots and Contemporary Issues

Sea Pearl 3/4

Surveys of the international communication needs of small and medium sized manufacturing companies in Tokyo

Atsuko K. Yamazaki

Abstract: The author conducted a questionnaire survey to investigate the international communication needs of small and medium sized manufacturing enterprises (SMEs) in Ota City in Tokyo. One hundred eighty five companies responded to the questionnaire and representative from twenty six of them were interviewed. The analyses of the survey results showed that many SMEs had shifted from operating merely as a subcontractor to the manufacturing of their own in-house products in order to cope with the globalization of the industry. Although their operations were mainly domestic or connected to Asian countries, about half of the companies responded that English is the most important communication language at the workplace. The analyses revealed that SMEs holding a patent had more business with overseas companies and considered communication in English more important than companies without a patent. On the other hand, many SMEs in Ota City expressed passive attitudes toward overseas operations due to their lack of qualified personnel for international communication.

Traditional Images of Japan as a Monozukuri Country, with Special Reference to Education in Japan and Cool Japan Abroad

Mari Hiraoka

Abstract: This paper seeks to give present calls for Japan's 'return to its monozukuri tradition' a historical perspective, with special reference to the field of technical education. Firstly, the very concept of monozukuri, when the monozukuri tradition is invoked, is questioned in the introduction. Brief discussion of the present call for Japan's return to the monozukuri tradition will be outlined in the next section. Then, how the West traditionally viewed Japanese monozukuri is presented in order to illustrate its main feature: which is argued to be 'spirit' rather than 'skills'. Two types of British oyatoi teachers' approaches towards Japanese ability are followed, which shows that emphasis on Japanese monozukuri tradition often varied depending on the individuals and the times. It is hoped that this kind of rethinking of Japan's monozukuri will lead to a new understanding of its tradition, which may help Japan to harness Cool Japan enthusiasm abroad. Furthermore, this might also help introduce the benefits of monozukuri education and human resource training into formal education and companies, both in Japan and abroad.

Clipping The Roots Before Planting: A Three-Part Examination of Interpersonal Japan-U.S. Business Interactions

Mathieu Reynolds

Abstract: This paper examines the divide between Japanese and U.S. business communication strategies as it manifests in interpersonal interactions and offers solutions for improved cross-cultural discourse. Often, the divides that arise during exchanges between Japanese and American communicators are due to the misreading of cultural norms specific to each culture. The author calls out three fundamental components of Japanese national culture that represent potential challenge areas for Western communicators when not

addressed properly. These challenge areas were selected based on the author's personal experiences accrued while living and working in Japan. It is hoped that a distillation of the cultural components associated with each scenario will help advance the conversation about the challenges involved in cross-cultural communication while simultaneously fostering a more accurate understanding of the manner in which Japanese and American cultures interface communicatively.

Session 4C - Looking at Visuals

Sea Pearl 5/6

What is Beautiful is Useful—Visual Appeal and Expected Information Quality

Thea Van der Geest, Raymond van Dongelen

Abstract: Would users, when having a first glance on websites, expect that visually appealing websites contain better information than websites that are less appealing? And if they looked longer, would that change their judgment? We created two versions for 12 homepages of websites, one with low visual appeal, the other one with high visual appeal. Through a pre-test, we made sure we entered the main study with validated 'beautiful' and 'ugly' sites. In the main study, 588 participants asked to judge the expected information quality of the sites for a given task. For 11 of the 12 sites, we demonstrated that a positive judgment of the visual appeal was consistently transferred to a positive expectation of the information quality of the site, after a short exposure time. In a follow-up experiment, a week later, with 355 of the same participants, we proved that also with a longer exposure time the high visual appeal sites were expected to contain better information than the low appeal ones, although the difference between the two versions decreased somewhat. We conclude that visual appeal is an important shortcut for users to determine the information quality of a website.

Safety Icons and Usability: a Peircean Reanalysis

Joshua Caldwell

Abstract: Recent studies have examined the usage of and effectiveness of icons, particularly safety icons. Collectively, these studies have found that some icons tend to be more effective than others. Various factors influence usability of an icon: culture, familiarity, detail, stylizing, simplification, color, and adherence to an archetype, "naturalness" and "differentiation," but also familiarity, uniqueness, completeness and clarity. So far, no study has attempted a ranking for these factors, differentiating important and minor considerations. Also missing is an organizing model of icon interpretation, explaining how these various factors relate, and a lack of theoretical understanding in usability studies generally as discussed by Lund. Without a consistent framework for understanding visual interpretation, when "errors" are found and corrected in a visual form, the change in visual form may or may not actually increase usability. This study organizes previous safety icon research using the Peircean framework proposed by Amare and Manning.

James M. Lufkin Award Winner

Toward a Unified Theory of Visual-Verbal Strategies in Communication Design

Suguru Ishizaki

Abstract: This paper studies the characteristics of "complex problems," and what usability testing professionals need to know about them so that they can be identified when they occur. If the user experience design profession is to grow, we need to demonstrate to business leaders that we have much to offer.

This paper documents a case study examining the development of a demonstration project intended to show the value of usability testing to a large textbook publishing house. It also demonstrates what can happen when complex tasks go masquerading inside a whole field as simple, linear problems. The paper illustrates how complex problems manifest themselves in a traditional usability study and how recognizing them affords researchers opportunities to serve a client's needs.

SESSIONS AT A GLANCE



About the James M. Lufkin Award for Best IPCC Paper

The James M. Lufkin Award recognizes the best conference paper submitted to IPCC Proceedings. The winner is selected by the IPCC Conference Committee in consultation with the PCS Awards Committee. The award was re-named for James M. Lufkin in 2008. James M. Lufkin served multiple terms on the PCS AdCom and multiple terms as Society President. In 1975, he received PCS's first Alfred N. Goldsmith Award for outstanding achievement in technical communication, and he was awarded an IEEE Millennium Medal in 2000. The achievement we particularly honor in naming the best conference award for him is his core role in chairing a series of conferences (1973, 1975, 1977) on the future of scientific journals.

This year, the paper, "Toward a Unified Theory of Visual-Verbal Strategies in Communication Design" by Professor Suguru Ishizaki of Carnegie Mellon University has been selected as winner of the IEEE James M. Lufkin Award for Best Paper in the IPCC Conference Proceedings. This paper was chosen because it:

- Addresses the interests of a significant number of potential readers of the conference proceedings and shows awareness of an international audience,
- Contributes to readers' understanding of the ideas the paper contains and is effectively organized,
- Uses examples and illustrations that are appropriate for the audience as well as the topic,
- Makes a significant original contribution to the field of technical and professional communication, or summarizes existing knowledge in a particularly effective or cogent way, and
- Exceeds expectations in writing for papers published in conference proceedings.

Session 4D - Project Management and Workplace Communication Nautilus I

What is excellence for Project Management knowledge in the context of globalization?

Constance E. Kampf, Bernadette Longo

Abstract: How can technical writers understand not only excellence in Project Management knowledge, but also the effects of globalization on how project management knowledge is used in project conception and project planning when major stakeholders live in third world countries? This study focuses in particular on project conception for the use of cell phone and web 2.0 technologies with an NGO based in the Democratic Republic of Congo. We found that students were able to use knowledge management and knowledge communication concepts to shape their project titles, goals and objectives, as well as their description of the work. Implications include that shaping projects through knowledge communication and knowledge management theory offers a new focus for excellence in project conception. This focus includes diversity in perspectives and fosters respect by recognizing differences as knowledge asymmetries.

Secrets to Managing a Large Documentation Project Virtually—Process, Technology, and Group Ethos: Lessons Learned

Sandy Bartell, Katherine Brown

Abstract: This paper describes the challenges and opportunities a group of Boeing Company bi-coastal employees experienced using collaboration tools to produce and test 60 training guides for the release of an enterprise-wide software application. The processes used to assign tasks, coordinate review cycles, control versioning, and instruct business analysts how to write software documentation in a virtual team environment were instrumental in the success of this project. More importantly, this virtual team evolved as a unique community of practice that accomplished its goals through dynamic, situated learning and highly effective communication processes.

Survey of Workplace English Needs among Computer Science Graduates

Emiko Kaneko, William Rozycki, Thomas Orr

Abstract: This paper reports the results of a November 2008 survey sent to 899 Japanese college graduates of computer science and computer engineering courses regarding their use of English in the workplace since graduating from the university. The results, based on a 17.4 % response rate, indicate that the most frequent English-language tasks for computer specialists in the professional workplace in Japan are the reading of manuals and instructions (for installation, etc.), and the writing of email, faxes, and business letters. English language speaking and listening tasks are reported by respondents to be not as common in the workplace as English-language writing and reading tasks. Findings suggest that academic institutions training engineers in non-English-language environments should avoid an institutional bias toward English for research purposes by balancing curricula between future professional and workplace needs of the majority of graduates and the needs of faculty for trained graduate students within the academy.

10:30- 11:00 Break

South Pacific Lounge and Nautilus Lounge

11:00 - 12:30 Conference Sessions

Session 5A - Leadership Workshop

Sea Pearl 1/2

Part 2

Brenda Huettner

Session 5B - Visual Design and User Behavior

Sea Pearl 3/4

Effects of language fluency and graphic animation on modality choices by adults when following online explanatory demonstrations

Patricia Wright, Anthony Soroka, Steve Belt, Stefan Dimov, Helen Petrie, David De Roure

Abstract: This study examined the combinations of audio, text, and graphics that 96 paid adult volunteers selected when they followed an online demonstration of setting an alarm on a virtual cellphone on a touch-screen. The volunteers either had English as their first language (E1st) or not (E2nd), or were adults who were native English speakers but considered themselves poor readers (PR). The demonstration was divided into nine subgoals through which participants proceeded at their own pace. For half the volunteers the actions within each subgoal were animated, and for half they were labeled on a static graphic. Task accuracy (>90% correct) and speed were similar across fluency groups. Most people combined modalities (E1st 63%, E2nd 69%, PR 72%), and the less fluent readers (E2nd and PR) included voice more often than E1st ($p < 0.05$). E1st most often chose graphic+text, whereas PR chose graphic+voice (listening preferred to reading), and E2nd chose graphic+text+voice (listening helped their reading). Animation changed the pattern of modality combinations, increasing selection of graphic+voice at the expense of graphic+text ($p < 0.05$). These data suggest that many members of the public will differ from designers in their modality preferences, making it desirable to incorporate modality choices into online explanatory demonstrations.

Emotion-Spectrum Response to Form and Color: Implications for Usability

Alan Manning, Nicole Amare

Abstract: Previous empirical studies have shown consistent emotional responses to form and color, across a variety of contexts and especially across cultures. What varies across contexts and cultures is evaluation of the color/form/emotion response. For example, both the color red and jagged, high contrast forms consistently evoke one emotional response neutrally described as agitation or activation, a response evaluated negatively as anger or positively as excitement. Standard taxonomies of emotion do not consistently distinguish between the positive/negative evaluation of an emotion (e.g. committed/obsessed) and its raw quality (e.g. focused). Consequently, the consistent relationships between form/color

SESSIONS AT A GLANCE



and emotion have been obscured. We propose a new model of emotional response that treats color/form triggers of emotion quality separately from triggers of emotion evaluation. This new model identifies a spectrum of emotional quality (agitated-stimulated-amused-rested-focused- organized- concerned) generally parallel to the familiar color spectrum (red-orange-yellow-green-blueindigo-violet). With this model, we can demonstrate a stable emotion-spectrum response in a population of viewers, to any given combination of form and color. This paper will report on empirical tests of this emotion spectrum model and discuss implications for usability testing of visual information designs.

Session 5C - Content for the TC Classroom

Sea Pearl 5/6

The Benefits of Analyzing the Rhetoric of Online Consumer Reviews in Technical Communication Courses

Jo Mackiewicz

Teaching the Techno-Pitch: Taking Student Innovators Beyond the Elevator Pitch

Charlsye Smith Diaz

Abstract: Student innovators need to learn to pitch their ideas online using electronic versions of the elevator pitch—to borrow a cliché—and to learn to craft a pitch that does not violate rules about the disclosure of potentially patentable ideas. Our social networks now provide electronic opportunities to pitch ideas in even shorter bits than the elevator pitch, and our student innovators need to be prepared to provide compelling pitches fewer than 50 words. This paper covers rules of disclosure; how to teach students to introduce themselves (and their ideas) on Twitter or Facebook; and, how to contribute to online conversations about their ideas.

Session 5D - Project Management Panel

Nautilus I

Excellent Adaptations: Managing Projects through Changing Technologies, Teams, and Clients

Jill Holdaway, Marta Rauch, Lynn Flink

Abstract: Whether working for one or more companies, information developers must adapt to changes in both the planning and implementation stages of product development. These changes include product and document delivery technologies, varying levels of process maturity, and changing demands of internal and external customers. We examine selected project management models and apply them as part of an adaptation strategy to demonstrate how information developers introduce ongoing quality improvements. This paper presents the results of a documentation project management survey, a departmental initiative program for producing cost efficient documentation and addressing customer requirements, and an analysis of how information developers can adapt project management practices in companies at different process maturity levels. Well considered and applied project management methodologies such as those discussed in this paper help us define, measure, and achieve success.

12:45 - 2:15 Lunch with Speaker

Coral 4

2:45- 4:15 Conference Sessions

Session 6A - Teaching Engineering Communication Workshop

Sea Pearl 1/2

Workshop on Teaching Engineering Communication to First Year Composition Students

Carolyn Labun

Session 6B - Changing Communication Tools and Contexts

Sea Pearl 3/4

Towards an Evidence-Based Presentation Authoring Tool

Terrance Goan, David Dearing, Eugene R. Creswick

Abstract: It would be difficult to argue that any software tool plays a greater role in knowledge transfer than PowerPoint. Unfortunately, prevailing presentation authoring practices yield less than optimal results (as evidenced by the near universal understanding of the phrase ‘Death by PowerPoint’). In this paper we describe our ongoing effort to develop an interactive presentation authoring aid that helps users craft an effective message and supporting visual media. More specifically, this software aid engages the user in a step-by-step dialog covering tasks ranging from the framing of an argument to the selection of appropriate data chart. We describe the results of preliminary experiments that indicate that such aids can provide benefits to both the speaker and the audience. Finally, we describe a practical approach to collecting the data required to support evidence-based presentation guidance.

A Contextual Understanding of “Excellence” in the Globalized Communication Network

Han Yu

Abstract: This paper reports Chinese industry professionals’ perceptions of “excellence” in professional communication. These findings are drawn from a larger scale study (supported by a University Small Research Grant through Kansas State University) on Chinese professionals’ needs for technical communication education. The entire study is scheduled to publish in IEEE Transactions on Professional Communication in 2010. Based on interviews with Chinese industry professionals, the author found that Chinese employees who otherwise all work in multinational companies and use English for workplace writing have different attitudes toward excellence in professional communication. This difference, I suggest, is caused partly by these professionals’ different work environments: extranational global and intra-national Chinese. Chinese global workers have a greater need for English proficiency and excellence in written communication than those working in China-based multinational companies. In addition, Chinese cultural perceptions of writing may lead some professionals to de-emphasize written communication. Based on these findings, the author suggests that technical communication teachers/trainers adjust their teaching approach when working with industry professionals from China and elsewhere to better promote excellence in communication.

Session 6C - Design: Menus, Interfaces, and User Experience Sea Pearl 5/6

Refining Specifications of Decorative/Indicative Balance in Menu Design

Noël T. Alton, Alan Manning

Abstract: The general notion of balance in visual design is apparent, but what is lacking is a more precise specification of how that balance is defined in concrete terms and achieved with specific design techniques, the exact location of the tipping point, as it were, between effective and overused colors, forms, and imagery. This paper will report results from an empirical study of restaurant menu design, with findings that can be generalized to web page and help menus. Participants agreed that too much color and too many images overload the senses, making it almost impossible to glean any information about the food. Participants also agreed that colorless presentations felt bland and uninviting. Menu designs that achieved balance were found to deploy unified decorative effects and a limited number of indicative strategies, consistent with principles discussed by Amare and Manning (2006, 2008).

Small-screen Interface Design: Where Are We? Where Do We Go?

Don Zimmerman, Teresa Yohon

Abstract: Cell phones, handheld computers, iPods, and other small-screen technologies have become ubiquitous with more and more physical features added annually. Researchers have used diverse variables to explore usability on small-screen design for cell phones and PDAs, but few researchers have explored presenting Websites on small screens nor have theories been proposed to guide future research on small-screen interfaces. Our article, a work in progress, coincides with our small-screen pilot funded by the National Cancer

Institute. We provide a succinct review of the empirical research on small-screen technology interface and then propose theoretical conceptualizations to guide future research and highlight variables of critical importance.

Achieving Design Enlightenment: Defining a New User Experience Measurement Framework

Alexander Thayer, Thérèse E. Dugan

Abstract: By using self-reported metrics, user researchers, designers, and usability experts can pinpoint the aspects of a user experience that require modification during, rather than after, the development process. Comparative data are potentially the most valuable to designers and researchers because these data provide insight into users' perceptions and expectations about specific aspects of the user experience. In this paper we extend the theory of expectation disconfirmation and suggest that, by collecting comparative data on users' perceptions and experiences as they relate to the specific experience goals of a project, project teams can make the right choices and trade-offs when it comes to designing the user experience. We also suggest specific methodologies from the field of education research that can inform project teams' decisions at the outset of product design projects.

Session 6D - Communication Pedagogy for Students in the Professions

Nautilus I

Designing a Medical Writing Course in a Professional Writing Program

Carolyn Boiarsky

Abstract: As a result of the increasing number of engineered medical devices, from joint replacements to pacemakers to oxygen concentrators and CPAPs (continuous positive airway pressure devices), coming onto the market, there is a need for writers to write pre- and post- surgical procedures for patients, materials to train physicians in using the equipment, and documents for regulatory agencies. A career in medical writing appears to be an increasingly attractive goal for undergraduate professional writing majors. The English Department at Purdue University Calumet has introduced a medical communication course into its undergraduate professional writing program. While a course in medical writing involves the same principles and heuristics as other technical writing courses, it also offers special challenges that transcend those normally found in a professional writing course, including knowledge of the scientific and regulatory processes, medical language, an understanding of statistical analyses and an ability to locate appropriate bibliographic sources. The course is composed of two parts: (1) Medical writing as a specialty of professional writing and (2) the major areas of medical writing. The latter is composed of four segments: (1) patient education materials, (2) pharmaceutical documentation, (3) medical journalism, (4) author editing.

Global Visions: Promoting Excellence in the Education of Professional Communicators and Translators

Rosário Durão

Abstract: Despite the increasingly unified and multicultural consciousness of the world today, and the tendency of authors such as Hoft or Weiss, on the side of professional communication, and Nord or Risku, on the side of translation, to bridge the gap between professional communication and translation, these activities are still viewed as separate, requiring different competencies and educations. At most, one finds professional communicators being asked to be aware of the involvement of translators in their work processes and of the characteristics of translation, and translators being asked to be aware of localization and of the potential need to adapt their work to the characteristics of the receiving culture. This distinction corresponds greatly to the geographical divide between the United States and Europe, being actively promoted by the definition of translation, translation process, and translator competencies stated out in documents such as the recently adopted EN 15038 standard.

However, the unique context surrounding both professional communicators and translators, the communicative and rhetorical basis of professional communication and translation, and the knowledge and skills they share bring up the question of whether the education of these professionals should retain their distinctiveness.

This paper refutes this idea. Instead, it proposes the education of multicompetent international professional communicators (MIPCs) as an ideal education if one wishes to prepare students to meet the challenges of work in and for the complex local, national, international and global markets of today. It also puts forward a three phase instructional process as a means of attaining this objective.

Assessment of “Special English Lessons” for Engineering Students

Kumiko Morimura, Yoshimasa A. Ono

Abstract: Special English Lessons (SEL) is a special English language instruction program for engineering undergraduate students designed to improve their English skills and enhance their abilities in global communication. It is provided by the Global Ware Project (GWP) of the Center for Innovation in Engineering Education (CIEE) at the School of Engineering in the University of Tokyo. The SEL program is delivered by selected private English language schools from outside the university and governed by the GWP. The number of students who take part in the program has been increasing each year: enrollment was 430 in 2008, an outstanding result. SEL is not merely the simple outsourcing of lectures to English language schools, but a collaboration between GWP and these private schools. GWP controls the entire program, actively supervises the classes, continuously assesses the classes, and proactively suggests ways to improve the program to meet the evolving needs of the School of Engineering.

Session 6E - Proposals

Nautilus II

Proposal Writing from Three Perspectives: Technical Communication, Engineering, and Science

Kathryn M. Northcut, Mariesa L. Crow, Melanie Mormile

Abstract: Proposal writing is a venture common to non-profit organizations, academic researchers across disciplines, scientists and engineers in academic and professional contexts, and educators. This paper addresses proposal writing challenges of researchers in three very different academic fields: Technical Communication, Engineering, and Biology. An inherently interdisciplinary undertaking, proposal writing entails challenges of two kinds: general (common to most writers) and field-specific, or limited to people from one discipline or environment. Both types of challenges are addressed here.

5:00-8:00

Reception and Banquet

Rainbow Suite & Patios

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SESSIONS AT A GLANCE



Wednesday 22 July 2009

8:00 - 9:00 Breakfast

Coral 4 Lounge

9:00 - 10:30 Conference Sessions

Session 7A - Active Learning and Activity Theory

Sea Pearl 1/2

Assessing Excellence: Using Activity Theory to Understand Assessment Practices in Engineering Communication

Marie C. Paretti, Christine Bala Burgoyne

Abstract: In the workplace, communication serves not as an end in itself, with features that are "good" or "bad," but as a tool for mediating a range of professional activities, and effective documents are presentations are those that achieve their goals. Yet assessment methods in technical and professional communication often continue to rely on an evaluation of features apart from the intended work of the document. In this paper, we use activity theory as a lens to explore both the criteria for effective communication and the degree to which portfolio assessment methods can be applied to effectively assess student learning in this domain.

Achieving Excellence in Technical Communication Classes by Using IEEE Spectrum Magazine & Active Learning Techniques

Darlene Webb

Abstract: Active learning, also known as cooperative learning, is a teaching strategy which can be used to help engineering students learn concepts in typical junior-level communication courses. Students are placed in randomly chosen, mixed ability teams at the start of the course. To encourage group process and team-building skills, students adopt team roles like scribe, timekeeper, leader, & participant and the instructor uses techniques like roundtables, think-pair-share, stations, jigsaws, and journaling to deliver the objectives of the course. Articles from IEEE Spectrum magazine are used to supplement the textbook and to make the content engineering specific.

The benefits to the instructor are better on-task student behavior and the ability to provide regular feedback to students despite the everyday teaching challenges of large class sizes and a wide range in the students' level of language fluency.

Session 7B - The Level Playing Field: Social Media and Their Users

Sea Pearl 3/4

Eroding Authority: Dynamic Author-Reader Relationships on Social Media

Quan Zhou

Quest for Excellence in a Wiki-based World

Rolanda Hatcher-Gallo, Zohra Fazal, Maya Oluseyi

Abstract: In an increasingly technological world, the Internet is often the primary source of information. Traditional encyclopedias, once the cornerstone of any worthy reference collection, have been replaced by online encyclopedias, many of which utilize open source software (OSS) to create and update content. One of the most popular and successful encyclopedias of this nature is Wikipedia. In fact, Wikipedia is among the most popular Internet sites in the world. However, it is not without criticism. What are some features of Wikipedia? What are some of its strengths and weaknesses? And what have other wiki-based encyclopedias learned from Wikipedia that they have incorporated into their own websites in a quest for excellence? This paper answers these questions and uses Crawford's six information quality dimensions, 1) scope; 2) format; 3) uniqueness and authority; 4) accuracy; 5) currency; and 6) accessibility, to evaluate Wikipedia and three other online encyclopedias: Citizendium, Scholarpedia, and Medpedia. The latter three have managed to maintain the advantages of Wikipedia while minimizing its weaknesses.

Peering into Disaster: Social Software Use from the Indian Ocean Earthquake to the Mumbai Bombings

Liza Potts

Abstract: By examining the use of social software across multiple disasters of the 21st century, we can better understand social software use, user-centered design, and trends in communication. Looking across these disasters, we can trace from the early connections made by participants through the channels of the mainstream media up to more recent disasters in which participants were able to use numerous systems to locate data, validate it as information, and distribute it as knowledge. As participation across these systems reaches tipping points in terms of participation and media awareness, people will find more population to communicate and share information. The solutions will be in how we provide ways for them to be active participants, how well the mainstream media cooperates with these participants to further distribute information about key sites of activity, and how empowered moderators feel to create their own spaces for communities to meet and exchange details.

Session 7C - Research

Sea Pearl 5/6

Summary of a Literature Review of Qualitative Research in Technical Communication from 2003 to 2007

Debbie Davy, Christina Valecillos

Abstract: This paper presents a summary of the findings from our literature review of qualitative research in technical communication from 2003 to 2007 of the five peer reviewed technical communication journals. We provide examples of qualitative research from the articles we reviewed, and conclude with a snapshot of the state of qualitative research in this period. Further, we examine the types of qualitative research topics being presented and the most common qualitative research methods.

Quantitative research provides only one half of the understanding of the technical communication body of knowledge—the other half comes from qualitative research, which provides information that is essential for a balanced view of what is happening in the technical communication field. It is the synthesis of qualitative and quantitative responses that provides a complete answer. The qualitative research we conducted provides a significant body of knowledge on topics that are important to our field and critical to establishing respect and understanding from other disciplines and professions.

Technical communicators are looking for current information that can be used to advance their knowledge of their discipline. It is reasonable to expect that technical communicators would look at qualitative research in the field as yielding first-hand accounts of how technical communicators are using emerging technologies, evolving their areas of expertise, and providing business value. It is important to understand influences, and be able to answer the question, "Why?" to develop the body of knowledge for our profession.

Internet-Based Research for the Desktop and Beyond: Building a Foundation of Excellence for Information Design on the Web

Sella Rush, Sajanee Halko, Brett Masker, Elisabeth Cuddihy, Jaayden Halko, Kate Mobrand, Jan Spyridakis

Abstract: The internet has become a primary vehicle for delivering information, but the online platforms used to access that information are constantly shifting. Web users are more sophisticated in the ways they access information online, but it is unclear whether design best practices have kept pace. The need to develop a set of effective best practices for web design, based on empirical research, becomes even more critical as people migrate from desktops to mobile browsing. We strongly support the use of internet-based research to ensure the ecological soundness of information design best practices.

SESSIONS AT A GLANCE



Perceptions of credibility in scientific images

Kathryn M. Northcut, Christopher Chandler

Abstract: This study sought to discern how people determine credibility of images in science. We predicted that certain visual cues would correspond to relatively higher credibility ratings of images; therefore, realistic images with more detail and more contextual cues would receive correspondingly higher ratings. We administered a threepart, 19-question survey to 83 University of Missouri–Rolla General Psychology students in Spring, 2006. While few of the measured variables could be correlated to credibility ratings, the surprising results of the study warrant discussion and follow-up investigations.

Session 7D - Workplace Narratives: Storytelling and Standards

Nautilus I

Personalized Narratives to Determine Eligibility for Complex Regulations and Services

Thea Van der Geest, Lex van Velsen, Wijnand Derks, Nalini Katamraju

Storytelling: Improving Technical Communication Through Organizational Change

Thomas "Tom" Berry, Jr., Gregory "Greg" Nelson

Abstract: Many organizations communicate technical information poorly. Audiences often walk away from presentations not knowing what the key message was and unsure of actions they should take as a result of the briefing. Although successful communication techniques are well known and documented, corporations sometimes have difficulty encouraging their technical staff to use them. This paper describes the results of a four-part communications strategy that was implemented at a large engineering firm. The purpose of the effort was to improve the ability of staff to communicate technical topics to a variety of audiences, and bridge the gap between theory and practice. The strategy consists of developing a clear step-by-step process, followed by training, offering quick turnaround support, and cultivating senior management support. Several important lessons were learned during implementation. Firstly, a clear process is important to engineers, who are the target audience for the training, because the clear process provides predictability and transparency. Secondly, branding the effort improves its visibility and acceptance. Thirdly, localizing the training by using specific examples demonstrates the application of key principles and increases acceptance and usage by staff. Several follow-up steps are planned, including development of an annual award for most effective communication. All of these activities reinforce the expectation that improving communications is a long-term corporate goal, demonstrated to produce results and expected as part of every staff member's duties. Keywords: organizational change.

Session 7E - Workshop on Implementing ISO 26514

Nautilus II

Implementing ISO 26514 in Your Workplace

George Hayhoe

10:30 - 11:00 Break

South Pacific Lounge and Nautilus Lounge

11:00- 12:30 Conference Sessions

Session 8A - IPCC 2010

Sea Pearl 1/2

Looking forward to IPCC 2010

Michaël Steehouder

Session 8B - Usability Methods

Sea Pearl 3/4

The Use of Paper-Prototyping in a Low-Fidelity Usability Study

Erica L. Olmsted-Hawala, Jennifer C. Romano, Elizabeth D. Murphy

Abstract: The Usability Laboratory at the US Census Bureau participated in the redesign effort for the American FactFinder Web site. The Web site was undergoing a major redesign in anticipation of receiving the data from the 2010 Census and making the data available to the public. To obtain user feedback on the conceptual design, the team used the technique

of paper prototyping in a low-fidelity usability study. The low-fidelity study identified user problems, and the team was able to implement design recommendations quickly and easily. This article highlights the benefits of paper prototyping in low-fidelity usability testing.

Unexpected Complexity in User Testing of Information Products

Tharon Howard, Wendy Howard

Abstract: This paper studies the characteristics of “complex problems,” and what usability testing professionals need to know about them so that they can be identified when they occur. If the user experience design profession is to grow, we need to demonstrate to business leaders that we have much to offer. This paper documents a case study examining the development of a demonstration project intended to show the value of usability testing to a large textbook publishing house. It also demonstrates what can happen when complex tasks go masquerading inside a whole field as simple, linear problems. The paper illustrates how complex problems manifest themselves in a traditional usability study and how recognizing them affords researchers opportunities to serve a client’s needs.

Session 8C - English in Japanese Industry: Needs and Training Methods

Sea Pearl 5/6

English Language Competencies Needed by Japanese Employees in the Manufacturing Industry

Keiko Kawaguchi, Ritsuko Ohta, Tae Ito

Abstract: This study aimed to identify work-related language competencies required in the manufacturing industry and to provide guidelines for designing English programs that have groups with widely differing language levels and wide-ranging job experience. For this purpose, a questionnaire comprising 65 job-related tasks was used. 2,360 Japanese employees in manufacturing companies were asked to self-rate their abilities to perform the specified tasks in English on a 5-point scale and to indicate whether they had ever performed such tasks before. The data was analyzed according to English proficiency 1) to identify the types of tasks performed at each score level and 2) to examine whether the experience of performing the tasks would affect their self-ratings. Results indicated that the higher the subjects’ language proficiency, the more tasks they had performed. Moreover, the subjects with task experience assessed their abilities more highly than those without experience. Further analysis revealed that the tasks requiring productive skills exerted a greater influence on the subjects’ self-ratings. Based on the results, a list of tasks was compiled so that educators and trainers can refer to it when designing an English program that meets the specific needs of existing and new company employees in the manufacturing industry.

Effective Methods for Training Japanese Industry Research Engineers to Write Proper Technical Papers in English

Yoshimasa A. Ono

Abstract: This paper describes twenty-five-year experience of how I have been training Japanese research engineers in industry research laboratories to write proper technical papers and conference abstracts in English so that their papers and abstracts can be easily understood by native speakers of English. Since almost all these engineers have not been taught how to write technical papers in English, they try to translate from their Japanese research papers into English in a word-for-word fashion using Japanese- English dictionaries, resulting in poorly organized English. I have rewritten their papers according the following rules: (1) Stating conclusions first, then stating causes or giving explanations. (2) Following the three step English writing style of introduction, body, and conclusion, instead

SESSIONS AT A GLANCE



of following the four-step Japanese writing style of ki-sho-ten-ketsu. (3) Translating from Japanese to Japanese first, and translating it into English. Most of the revised papers and abstracts have been accepted by journal editors or program committees of international conferences. In addition to training individual engineers on their writing, I have been teaching technical writing in English (English for Science and Engineering) at Hitachi's R&D Division and at Hitachi Institute of Technology using materials developed during my tenure at Hitachi.

Session 8D--New Journal Launch

Nautilus I

Rhetoric, Professional Communication, and Globalization: Goals and Guidelines of a New Peer-Reviewed Journal

Matthew McCool

Included in Proceedings

Introducing Rhetoric into Usability: Applying Burke's Pentad

Victoria Sadler, Kenneth Bellew

Abstract. This paper supports recent calls for acknowledging rhetoric's relationship to the usability field and for the role that technical communicators can play in creating knowledge via a "long and wide view of usability." An expanded view of usability—as an art supported by scientific research—recognizes how technical communicators work in tandem with engineers to connect science and culture [1, 320; 328]. More specifically, the authors argue for using Kenneth Burke's concept of the dramatic pentad as an analytical tool for seeing and understanding a usability situation from multiple and alternate viewpoints. We propose the pentad as a way of approaching how we theorize and conceptualize usability.

Through the lens of the pentad (act, agent, agency, scene, purpose) we conceptualize a usability test as the agency through which agents (actors) act or behave. This leads to exploration of one of the pentadic "ratios:" agent-agency.

Usability Testing of Web Sites Designed for Communities of Practice: Tests of the IEEE Professional Communication Society (PCS) Web Site Combining Specialized Heuristic Evaluation and Task-Based User Testing

Derek Hart, Daniel M. Portwood

Abstract: This paper describes an innovative methodology developed for usability tests of the IEEE PCS Web site that combines heuristic evaluation and task-based testing. Tests conducted on the PCS Web site examined whether the site facilitated members' ability to find information and participate in discussions, as well as developers' ability to find, contribute, and manage administrative content on the site. The unique social characteristics of Communities of Practice (CoPs) provide context for tailoring design heuristics for informational Web sites that serve the needs and interests of CoP members. Discussion focuses on technical communication principles that apply not only to evaluating the effectiveness of the PCS Web site design but also to all user-centered technical communication products and media that increasingly demand user participation.

IEEE Professional Communication Society
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