



Midwest Gateway Newsletter

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Spring Tutorial Planned

Chapter Sponsoring Tutorial on Writing Good Requirements

by Clint Moor

A highly regarded tutorial on writing good requirements will be sponsored by the Midwest Gateway INCOSE Chapter this spring. This event will be hosted by Washington University in St. Louis and will be held on their main campus on Saturday, May 9th, 1998 from 9:00AM to 5:00 PM.

We all want to "do it right the first time". But when it comes to requirements, we don't always know how. Data shows that poor requirements result in cost and schedule overruns. So why do we generally write poor requirements? Have you ever evaluated requirements (good, ok, bad) you've written before they've been implemented? How about after they've been implemented? Do you know why they were good or bad? Could even the good ones have been improved? Most people simply don't know what to do to write good requirements—writing requirements is not a course in the usual college curriculum.

Writing good requirements is hard work and requires a disciplined approach from both management and the

technical team. This tutorial is provided with the intent of helping us move beyond the concept of "do it right the first time" to a more thorough understanding of the discipline and techniques we need to employ to ensure that we are truly "writing good requirements the first time". This class will help the attendees understand:

- How to define project scope before writing requirements
- The requirements definition and management process through the project life-cycle
- How to recognize poor requirements and how to write good requirements

Since 1990 this class has been taught at several NASA centers, to the Navy, NOAA, the Air Force, and to a number of contractor organizations. It has been a part of the NASA Project Management program training for three years.

The class will provide a clear understanding of why the requirements that attendees have worked with or written have given them so much trouble. The hands-on workshop will also give attendees some real data to take with them for future applications. If participants come to the class convinced of the need "to do it right the first time", they will leave understanding the tools and discipline needed to do just that.

The tutorial will be presented by Ms. Ivy Hooks. Ms. Hooks is president of Compliance Automation, Inc. (CAI), a small woman-owned business specializing in requirements definition and management. Ms. Hooks teaches classes, conducts audits, and provides consulting to government and industry in all areas of requirements management. She also heads a company that has developed and markets Vital Link™, a requirements management software program.

Ms. Hooks is widely recognized for her work with requirements. She has published numerous papers on the subject in Issues in NASA Program and Project Management, The pmNetwork (the professional magazine of the Project Management Institute), the Proceedings of various INCOSE Symposiums, and the Proceedings of the American Institute of Aeronautics and Astronautics.

Ms. Hooks had a distinguished 20-year career with NASA where she held various positions such as the Space Shuttle Separation Integration Manager, Manager of Flight Software Verification, Executive Assistant to the Johnson Space Center (JSC) Director, Technical Assistant to the JSC Director of Engineering and Research, and Manager of Shuttle Data Bases.

Midwest Gateway members and other professionals with an interest in learning more about writing good requirements are invited to attend. The event will be a great way to experience first hand the problems encountered by multiple organizations in writing good requirements and the impact these problems have on cost, schedule and the quality of the systems we implement.

The tutorial will be held on the main campus of Washington University in St. Louis in Room 101 of Lopata Hall (College of Engineering). Included in the day's activities will be lunch and an afternoon refreshment break. Workbooks will be provided that contain the overhead slides with room for notes and other relevant material. Due to the limited capacity of the room, prior registration will be required. Registration material will be provided to Midwest Gateway Chapter members in March. Other interested people should contact Clint Moor at (314) 291-8822 or, by e-mail, at cmoor@fastrans.net for more information. Registration information will also be posted on the Chapter's web site (www.aae.uiuc.edu/incose).

What Did You Think?

Chapter Member Survey Results

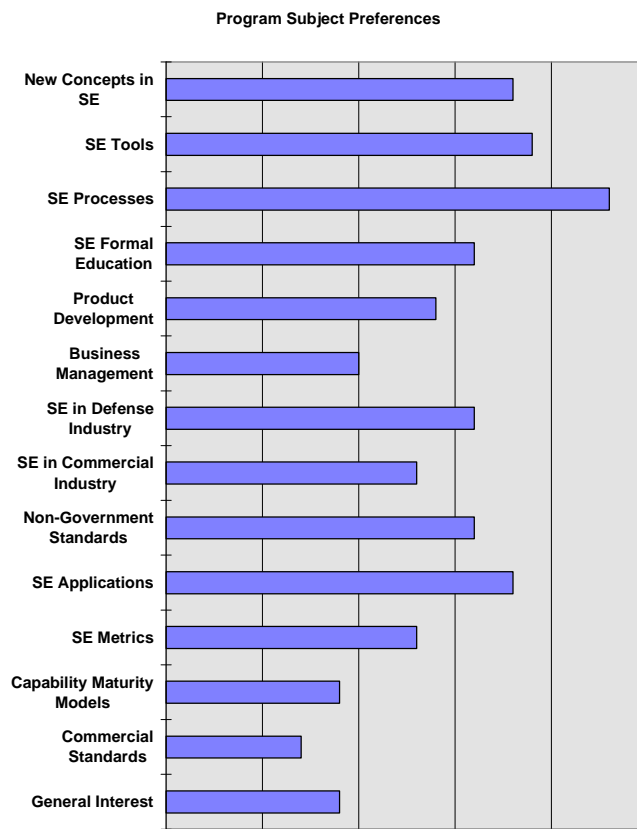
by Paul Summers

Recent trends in the Midwest Gateway Chapter, also being experienced by many other chapters of INCOSE, caused the Board of Directors to create a questionnaire that would give us some insights into determining how to better serve our membership. The results of the questionnaire are the subject of this article. All current members were polled and we received twenty three responses. The questionnaire was partitioned into two sections: 1) chapter meetings; and 2) chapter events. Summary data presented in this article highlights clear majority opinions. When there was not a clear majority opinion, the full spectrum of responses is addressed.

Chapter Meetings

The clear majority of respondents preferred chapter meetings to be held Quarterly, on either Tuesday, Wednesday or Thursday evenings. Time preferences were either 5 PM or 6 PM. Preferences for refreshments were either a full dinner or "munchies." Most

respondents felt that a \$10 fee for members was appropriate. Several potential meeting program subjects were offered for consideration. Membership preferences are illustrated in the graph below. Larger relative scaling implies higher priority chosen by the respondents.



Chapter Events

Chapter events were defined in the questionnaire as "special" events, such as the recent tutorial on systems engineering we had at Washington University and the past field trip to the Ford factory. Respondents indicated that these chapter events should be held quarterly or semi-annually, and that events should focus on a mixture of specific SE issues and general interest issues. Responses showed a clear preference for events to be held on weekdays. When asked if the chapter should get involved with events that had a charitable focus the response was "no". Half of the responses indicated that the chapter should get involved with community issues, and a clear majority did want to get involved with students in our public schools. A strong preference was expressed for communications via e-mail.

General Results

The last two questions in the survey were designed to determine if INCOSE was providing an appropriate return for the annual dues. About half of the responses

indicated that there was not an appropriate return on investment. However, the vast majority of respondents indicated that they would continue their membership.

Chapter leadership indicated that the questionnaire provided valuable feedback that will help mold the Midwest Gateway Chapter into a more member-focused organization. The writer is hopeful that these membership questionnaires are continued as a mechanism for polling our membership on key issues.

INCOSE Planning for the Future ***International Workshop Produces Results***

by Robert P. Scheurer

Everything is BIG in Texas. That includes INCOSE's International Workshop held January 26-29 in Dallas. Over 115 representatives, including many from outside the United States, gathered together and rolled up their sleeves to get some real work accomplished for the benefit of the organization. Our own Bill Schoening was installed as the new International President and proceeded to outline his agenda for 1998.

Two themes became apparent during the week-- the need for expansion of value to the membership at large and the need to build membership throughout the world. Current members will especially appreciate the initiatives announced regarding membership values. A new quarterly Journal is due out in the next few months along with a revitalized Insight newsletter. Yours truly is now an active member of the INCOSE communications committee responsible for publishing the Insight. One particularly exciting development is the implementation of "Theme Editors" for the newsletter, who will be responsible for editing the content of a particular issue on a given Systems Engineering theme. All members are eligible to become "Theme Editors", and the job even pays \$500! If interested, please contact the writer.

Countless sessions were held by the various committees for outlining strategies for improving their contributions to the organization. A Technical Operating Plan was released which provides guidelines for INCOSE's future technical role in society. It includes sections on 1) INCOSE customers, 2) products and services, 3) communication, 4) membership, 5) involvement, outreach, and collaboration, 6) theory, research and education, 7) international, national, and regional involvement, and 8) structure and operations.

What was particularly appealing to the writer is the initiative for theory, research, and education. INCOSE hopes that by drawing on academia and industry for systems engineering advances, the over-all technical

practice of systems engineering can be elevated. This could address the concerns of many regarding the constant "churning" of the same old material year after year, particularly in symposium papers. Of course, the quarterly Journal should augment this improvement process as well.

In general, the workshop proved to be an interesting process of organizing various technical and managerial experts for steering the organization into the future. As this was the writer's first INCOSE workshop, it was refreshing to see highly prominent Systems Engineering leaders come together and setting aside the competitive nature of their respective company affiliations, for the common cause of advancing their profession.

From The President's Desk

by Robert P. Scheurer

It is a pleasure and honor to serve as your president of the Midwest Gateway Chapter of INCOSE for 1998. Having been a member (#123) since 1992, I've seen many things happen in both our local and international organizations over its relatively short history.

Since its inception, the International organization has seen a growth that is leveling off to just over 3000 members. At the local level, we're an average-sized chapter, down to approximately 60 members from a high of over 100 a few years ago. Part of this decline in membership numbers is due to non-renewing members, but much is due to a reallocation of dozens of our more distant members to other emerging chapters in our region.

A constant sentiment heard at both the International and local levels is the perceived lack of value for the membership. I have been known to wonder about that myself. INCOSE's Central Office is now addressing this concern through a variety of methods from which you should start seeing results over the next several months. At our chapter level, I feel we can address this concern by making the following vision for the Midwest Gateway Chapter a reality:

*The Midwest Gateway Chapter of INCOSE is
Recognized as a Leading Source of Systems Engineering
Expertise in the St. Louis Area, in the Midwest Region,
and Across the Country.*

Your Board of Directors and I hope to implement this vision by meeting the following four objectives:

- Expand membership value with high quality services.
- Raise chapter membership's level of systems engineering understanding.
- Build membership and member participation.

- Have fun.

The recent survey will help in determining how we proceed in meeting these objectives. See another article elsewhere in this newsletter regarding the results. Suffice it to say that I firmly believe that if people see INCOSE as a place for professional growth, learning, and enjoyment, the membership numbers will take care of themselves.

A great deal of planning has already been performed to map out the year with chapter events and services to the members. However, a great deal remains to be done. If you are interested in becoming a part of the renaissance of the Midwest Gateway Chapter and INCOSE, either let me or any member of your Board know. You've heard it before but I'll say it again. This is your chapter and you can help make it into what you think it should be.

Let's make this an exciting year.

Communications Committee

Chapter Moving Towards More Electronic Communication Methods

Over the next year we are going to improve the methods by which we communicate with our membership. We will be transitioning to an electronic communication process utilizing e-mail and our web site. In addition to meeting notices being sent via e-mail, the President will begin a monthly status report, which will be sent out to membership via their e-mail addresses. In order for the chapter to ensure delivery of this information please forward your e-mail address to John P. Adrian at john.p.adrian@boeing.com.

Chapter Business

Highlights of Actions by the Board of Directors

The Board of Directors of the Midwest Gateway Chapter has been meeting regularly to further the work of the chapter. Actions and discussions at recent Board meetings have included:

- detailed planning for the Spring Tutorial, and discussions concerning topics for a Fall Tutorial;
- approval of chapter technical meeting plans, including plans for a dinner meeting in March and a automobile production plant tour;
- approval of the chapter budget for 1998;
- review of Membership Survey results.

The Board meets regularly on the second Tuesday of each month, with special meetings scheduled when needed. Any chapter member is welcome to attend.

Please contact Board Secretary, Don Hess, for more information.

Upcoming Programs

Mark Your Calendar for These Events

- 11 Mar, Dinner Meeting.
Subject: "Function Analysis and Concept Generation via TechOptimizer", presented by Tom Cummings.
See attached Flyer for details.
- 9 May, Spring Tutorial.
Subject: Writing Good Requirements.
See related feature article in this issue.
- June, Symposium Preview.

If you have ideas for upcoming programs, comments on past programs, questions on any of the programs listed or would like to participate on the Programs Committee, contact Jeff James at (314) 233-2869.

Got an Idea?

How to Contribute to this Newsletter

The Midwest Gateway Newsletter needs YOU!

This Newsletter is published four times a year, with the goals of

- providing technical articles of interest to chapter members;
- stimulating discussion on systems engineering issues;
- keeping chapter members informed on upcoming programs and events.

The Newsletter staff is always looking for good articles, information on the technical issues Systems Engineers face on a daily basis, questions you'd like answered about the chapter or the International organization, and topics on which you'd like more information.

You can reach Newsletter editor Carol Wilke at (314) 233-8451. Contributions of articles or announcements, and letters to the editor can be sent to Carol Wilke at carol.e.wilke@boeing.com, or

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MS Word 6.0 format is preferred, but we can work with text from most word processing formats, if necessary. For graphics, please call. Please include name, e-mail and mail address, and phone number in all correspondence.

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