The Evolution of Communication Design: A Brief History of the ACM SIGDOC

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ABSTRACT
This paper provides an abbreviated history of the Association for Computing Machinery's Special Interest Group for the Design of Communication (ACM SIGDOC). The ACM SIGDOC has a relatively short history as special interest groups go (1975 to the present), but not in terms of the brief history and explosive growth of computer science, interface design, and the design of systems that support computer users. Indeed, interest in forming a special group focusing on systems documentation began to develop in the early 1970s. At the time, few technical writers (or few computer professionals who recognized themselves as technical writers) existed. Most systems documentation was being developed for military applications and large mainframe computer systems (such as those developed by IBM Corporation). Similar to the history of ACM SIGDOC, the field of communication design has burgeoned while simultaneously allowing increased fragmentation and distributed research initiatives across other developing fields.

Categories and Subject Descriptors
K. [**Computing Milieux**], K.7. [**The Computing Profession**], K.7.2. [**Organizations**], ACM.

General Terms
Design, Documentation.

Keywords
Communication Design, Computing Profession, History of Computing.

INTRODUCTION
This paper relies on conference proceedings from 1982 to the present as well as issues from the ACM SIGDOC journal, *ACM Journal of Computer Documentation* (JCD), dated 2000-2002 and, before that, named *ACM SIGDOC Asterisk Journal of Computer Documentation* (1975-1999).

My major goal is to capture a spirit of the history and development of the ACM SIGDOC in a few pages. This is no mean feat given that the SIG has a rich and creative history that mirrors developments in the fields of technical communication, computer science, rhetoric and communication, engineering, technology studies, and information design. As well, after Brockmann [1], I believe that understanding our rich history as an organization affords us both perspective and a deeper sense of what our professional and organizational future may hold.

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NAMING OUR COMMUNITY
Tracing the history of the Association for Computing Machinery Special Interest Group on the Design of Communication (ACM SIGDOC) is much more challenging than one would expect, especially given that the group has a history of less than four decades. To begin with, the acronym, ACM SIGDOC, stands for a name that is several names removed from the original Special Interest Group on Systems Documentation (1982-1996). After that, SIGDOC stood for Special Interest Group on Computer Documentation (1997-2002), Special Interest Group on Documentation (2003) and, finally, the current Special Interest Group on the Design of Communication (2004-present). Changing the name of the SIG, as well, reveals the evolving nature of our objects of study.

Whereas early interest in documentation emphasized the documentation that computer programmers and engineers developed to support, describe, and share their code, researchers and practitioners interested in communication design now span diverse disciplines and industries. In the 1980s and 1990s, the audience for documentation had shifted with the audiences that used documentation. End-user documentation occupied a considerable amount of ACM SIGDOC members' attention although technical specialists were still very much engaged in building systems for other technical specialists and for helping technical writers and editors produce usable manuals and online information. By the late 1990s, Web applications and online information design and evaluation had become a reality and ACM SIGDOC drew interface designers, graphic designers, marketing specialists, and information architects to its annual conferences. The Special Interest Group on Documentation seemed a much more appropriate name. And, finally, with the new century, "documentation" clearly did not capture the myriad of research interests and practical issues that members were bringing to the organization. SIGDOC was rebranded in 2004 as the Special Interest Group on the Design of Communication.

THE BEGINNINGS OF ACM SIGDOC
Halfway through the 1970s, Joe Rigo (ACM SIGDOC founder and first chair) observed, "There were few computer-related jobs

outside IBM and the other manufacturers" [19]. To put the computing context of the mid-1970s into perspective, Microsoft Corporation had just been established in 1975 with the mission of selling the Altair 8800 microcomputer, a technology so new that its primary consumer base was the audience of magazines such as *Popular Electronics* and *Radio-Electronics* [14]. During the decade, the computer world grew dramatically (or got smaller, depending on your perspective) from mainframe (e.g., DEC PDP-1, IBM 360/370) and minicomputers (e.g., DEC PDP-8, DEC PDP-11) to microcomputers (e.g., Apple II, TRS-80 and a host of early software applications, including WordStar, VisiCalc, and dbase II) [17]. The late 1970s and 1980s, incidentally, was when I was introduced to my first microcomputer (the TRS-80 using VisiCalc) and although I was familiar with mainframe computing and minicomputers—and inevitably would become much more familiar with them over the next several years while a student at the University of Waterloo—I was largely unfamiliar with the 1970s computing world that Joe Rigo inhabited professionally.

Feeling motivated to make that computing world feel a little less "lonely," Joe Rigo submitted a brief request to the *ACM forum* of the *Communications of the ACM*. His request read

> I would like to hear from persons interested in forming a Special Interest Committee concerned with computer documentation. The group would consider matters of technical writing, system documentation, and communicating with nontechnical associates. This is strictly an exploratory move. I will report the results of the exploration to anyone who contacts me. We can then determine where to go next, if anywhere [18].

He was excited to receive thirty-three responses, letters from University of Scranton, the Canadian government, Texas Christian University, Lockhead Aircraft, and so on. Rigo compiled the responses into a sixteen-page document entitled "SI*DOC—Special Interest * on System Documentation Newsletter." A petition was also sent to the ACM SIG/SIC Board requesting the "establishment of a Special Interest Committee in the area of computer systems documentation" [19, p. 32].

That same October, Rigo went on publish the first issue of an informal newsletter focusing on documentation and to organize a tutorial and panel discussion entitled "SIGDOC: Experiences with HIPO and other documentation techniques" for the ACM '74 conference being held in San Diego, CA. The panel speaker was Joan Rennaker (Productivity Marketing, IBM) and the panelists included N. C. Jurgens (Project Manager, Sperry Univac), J. A. Morin (Regional Computer Support Manager, NCR), R. D. Olson (Principle Programmer, Sperry Univac), and J. R. Glick (Project Manager, Documentation, Health Application Systems) [23]. Joan Rennaker's career path at the time was representative of professionals interested in technical communication, beginning in productivity marketing and culminating in senior product administration. She had authored a manual on HIPO (a design aid and documentation technique) and would later become an innovator in organizing HUB-based writing centers [2].

The response to the 1974 panel was, in some respects, not entirely surprising. Audience members encouraged an interest in documentation but some wondered why a separate group was needed. This is a common response of the larger ACM Special Interest Group (SIG) Board to emerging disciplines or sub-disciplines, where developing SIGs argue for their uniqueness and viability and larger, established SIGs argue that what they do already addresses issues being raised by the developing SIGs.

Rigo continued to engage volunteers (as treasurer and newsletter contributor) and more people signed petitions and submitted letters for submission. These contributions were published in a second issue of the SI*DOC newsletter and, shortly after, Jean Sammet, President of the ACM, asked that he avoid using ACM SIGDOC or SI*DOC in the publication until formal review had occurred [19, p. 32].[1]

One of the earliest contributors to the *ACM SIGDOC Asterisk Journal of Computer Documentation, 2* (6) [1975]—as well as Diane Patterson and Joe Rigo—was Jonathan Sachs, an MIT graduate who majored in mathematics and was doing work for the Jet Propulsion Lab and several centers at MIT including the Center for Space Research and the Biomedical Engineering Center. It was Sachs (1976) who contributed the first "Comments on Comments" article for the *ACM SIGDOC Asterisk Journal of Computer Documentation*. This innovative feature became a regular part of the journal's organization, where authors contributed articles, other authors commented on those articles, and the original authors were provided with the opportunity to comment on those comments. By 1977, Sachs was at Data General, working for employee #14 and, by 1982, he co-founded Lotus 1-2-3 with Mitch Kapor. Sachs left Lotus three years later and, since 1994, has run his own company, Digital Light & Color, developers of Picture Window, a photo-editing application.[2]

Another early contributor to the journal was Martin A. Goetz, founder (1959) and President of Applied Data Research. In addition to receiving the first U.S. software patent in 1968, he was elected in 1989 to the Infomart Computer Hall of Fame and, in 2000, to the New Jersey Inventors Hall of Fame. His expertise at the time and now is in patent law, unfair competitive practices, and copyright issues; in 1976, for ACM SIGDOC, he was writing about automated documentation challenges [8].

Things moved very quickly in those early days. Rigo submitted 120 signatures to the ACM Board in January 1975 with a request to be officially recognized. One-hundred-and-thirty-eight people were subscribed to the (unofficial) SIGDOC listserv at the time. The ACM Board approved the SIG application in March 1975 and, in April 1975, * (Asterisk) became the first official publication of ACM SIGDOC. By 1977, ACM SIGDOC had, according to Joe Rigo, "Almost 2000 members in 42 states, 8 Canadian provinces, and 11 other countries" (e.g., Australia, Hong Kong, and Switzerland) [19, p. 33]. Rigo also reports that ACM SIGDOC had five local chapters (e.g., in Toronto, Washington, DC, and New York) although when these local

[1] As a humorous point of interest, Rigo published Jean Sammet's letter in January, 1975, in the third issue of the monthly newsletter, which he had renamed appropriately as "* Systems Documentation Newsletter."

[2] For more detail on Jonathon Sachs' history as co-founder of Lotus 1-2-3, see Campbell-Kelly [5].

chapters dissolved has not been documented.[3] That same year, 1977, Tom D'Auria (Columbia University) became ACM SIGDOC Chair and Joe Rigo became newsletter editor.

ACM SIGDOC IN THE 1980s

Patterson [16] describes in detail the painful process involved in producing the ACM SIGDOC newsletter (*) in the 1980s. After being mailed to the ACM home office,

> It was assembled on large sheets, provided by ACM, by pasting strips of galley-printed stuff on anyone's printer. The best printers in those days were the daisy-wheel ones. Titles were added using adhesive lettering, such as Letraset. We usually received material printed on whatever machine the author had available. There was little chance to edit the material unless we wanted to retype the stuff (no scanners then for the common writer). The large sheets were then reduced and printed by ACM headquarters [16, p. 36].

The newly minted ACM SIGDOC conferences were still held as part of the larger ACM Conference and, in 1982, the first joint conference of SIGDOC and SIGOA[4] was held Los Angeles, CA. The second conference of ACM SIGDOC was held in Seattle, WA, the third in Mexico City, Mexico, the fourth in Ithaca, NY, and SIGDOC '86 was held in Toronto, Canada, along with a special workshop conference of ACM SIGIR, hosted by Michael Lesk, in Snowbird, Utah.[5]

In 1986, the Joseph T. Rigo Award for contributions to the field of documentation was created by Diana Patterson, and supported by the ACM SIGDOC Board. One year later, the first recipient of the award was Sergio Figueroa Balderez who, in Patterson's words, "brought our conference and the concerns of documentation as a serious subject to Mexico, particularly to his university, Univesidad Automata Metropolitana in Mexico City" [16, p. 39]. The second recipient of the Rigo Award was Edmond H. Weiss and the third was R. John Brockmann. Winners of the now prestigious Rigo Award are listed in Table 1.

In addition to being the third recipient of the Rigo Award, R. John Brockmann (1989-1993) was also the fourth ACM SIGDOC Chair, after Joe Rigo (1975-1977), Tom D'Auria (1977-1980), and Diana Patterson (1980-1989). Brockmann [1]

Table 1: Recipients of the Rigo Award for "an individual's lifetime contribution to the field of communication design" (after 2004, awarded every other year).

Year	Recipient(s)	For
1987	S. F. Balderez	Bringing documentation to Mexico
1988	E. H. Weiss	*How to write a usable user manual* (1985)
Year	**Recipient(s)**	**For**
1989	R. J. Brockmann	*Writing better computer user documentation: From paper to online* (1986)
1990	B. Horton	*Designing and writing online documentation: Help files to hypertext* (1990)
1991	J. D. Chapline	Author of original ENIAC and UNIVAC user manuals
1992	E. Tufte	*Envisioning information* (1990)
1993	J. Bolter	*Writing space: computers, hypertext, and the remediation of print* (1991)
1994	J. M. Carroll	*The Nurnberg Funnel: Designing minimalist instruction for practical computer skill* (1990)
1995	J. Redish	*User and task analysis for interface design* (1998)
1996	B. Shneiderman	*Designing for user interface: Strategies for effective human-computer interaction* (1987)
1997	T. Landauer	*The trouble with computers: Usefulness, usability, and productivity* (1996)
1998	P. Wright	*Information design: Writing for information users* (1992)
1999	T. Winograd	*Understanding computers and cognition: A new foundation for design* (1986)
2000	B. Mirel	*Interaction design for complex problem solving: Developing useful and usable software* (2003)
2001	D. Norman	*The design of everyday things* (1998)
2002	S. Doheny-Farina	*Rhetoric, innovation, technology: Case studies of technical communication in technology transfer* (1992)
2003	J. Hackos	*Managing your documentation projects* (1994)
2004	A. Cooper	*About face: The essentials of user interface design* (1995)
2006	D. Goswami & C. R. Miller	Editors of *Writing in nonacademic settings* (1986) and *Writing in nonacademic settings* (1986)
2008	S. Bodker & P. Ehn	Co-authors of *Computers and democracy* (1987) and *Work-oriented design of computer artifacts* (1988)
2010	M. C. Baraneuskas & C. S. de Souza	Contributions to HCI, participatory design, and semiotic engineering in Brazil

[3] It is unclear how many of these members were paying SIGDOC membership dues, although the numbers are still very impressive.

[4] ACM SIGOA stood for the Office Information Systems and then for Organizational Computing Systems, holding seven conferences between 1984 and 1995 before it became SIGGroup (Supporting Group Work).

[5] The ACM Digital Library houses ACM SIGDOC proceedings dating from 1982 to the present (http://portal.acm.org/). No ACM SIGDOC conference was held in 1987.

writes that, "When I began as President after Diana, SIGDOC was still pretty much THE only game in town if you wanted to discuss the communication aspects of computers, but already other SIGs such as SIGLINL and SIGUCS were beginning to tear off some of the most interesting elements of our originally unified approach to computer documentation" [p. 40]. But by the mid-1990s, Brockmann laments, "… the sense of computer documentation as a unified whole had ended" and "… the days of single book coverage … or single SIG coverage were gone forever" [1, p. 40].

During Brockmann's term as ACM SIGDOC Chair, a second important award was instituted, the Diana Award, given to an organization, institution, or business for their long-term contribution to the field of communication design. Since 2005, the Diana Award has been given every other year, to organizations that have been or are groundbreaking in terms of their contribution to communication and technology processes and products (see Table 2).

Table 2: Recipients of the Diana Award for "an organization, institution, or business for their lifetime contribution to the field of communication design" (after 2005, awarded every other year).

Year	Recipient
1994	Xerox PARC
1995	Carnegie Mellon's Communications Design Center
1996	Seybold Publications and Seybold Seminars
1997	Adobe Systems, Inc.
1998	Netscape Communications Corp.
1999	Rensselaer Polytechnic Institute (RPI)
2000	MIT Press
2001	Information Mapping, Inc.
2002	World Wide Web Consortium (W3C)
2003	IBM Corporation
2004	The Society for Technical Communication (STC)
2005	The British Computer Society (BCS)
2007	Laboratory for Usability Testing and Evaluation at the University of Washington
2009	Apple, Inc.

ACM SIGDOC IN THE 1990s

The 1990s were a watershed decade for the field of documentation. Nina Wishbow (1993-1997) followed R. John Brockmann as ACM SIGDOC Chair and, in many ways, represented the first generation of documentation professionals to find a natural home in the technical and computing industry. To begin with, the 1990s had already seen the advent of the direct manipulation interface, of WYSIWYG document design, and contemporary personal computing as we currently understand it [22]. Wishbow was educated at SUNY, NY, in rhetoric and communication, received a MA in Communications at Purdue, and a PhD in Rhetoric (with a concentration in Cognitive Psychology) at Carnegie Mellon University (CMU). At CMU, she was introduced to document design and evaluation, usability testing of documentation and user interfaces, experimental design, and general human problem solving, skills that she took into the successful professional career that spanned various roles (as writer, documentation, usability, and project manager) and companies, including Legent, Nortel/Bell-Northern Research, Entrust Technologies, Oracle, Citrix Systems and, now, Openware.[6]

Kathy Haramundanis (1997-2003) became ACM SIGDOC Chair after Nina Wishbow and, for me, represents the chair who managed SIGDOC during its most dynamic years. With an educational background in computer science and Russian, she represented the perfect blend of organizational leadership, academic curiosity, and professional expertise in information development. Her industry experience began with technical writing and now involves information engineering management, an expertise she has brought to numerous computer companies, including Digital Equipment Corporation, Compaq, and Hewlett-Packard.

Scott Tilley (2003-2005) followed Haramundanis as ACM SIGDOC Chair and—educated as a computer scientist at Concordia University and the University of Victoria—brought an exciting computer science expertise and focus to the SIG. With an impressive technical background (IBM Canada Ltd., Software Engineering Institute, and the Florida Institute of Technology), Tilley revitalized the engineering documentation and textual analysis and manipulation research strands present in the SIG since its early days.

My first exposure to ACM SIGDOC was in 1988 during its 6th Annual International Conference on Systems Documentation, held in Ann Arbor, MI. I had started my PhD in Rhetoric (with a concentration in Document Design) at CMU in 1987, the same year Nina Wishbow graduated from the program and, before that, the University of Waterloo had prepared me well for the work that I would do as a doctoral student. At ACM SIGDOC 1988, I was presenting a theory of help system design and evaluation and demonstrating a model help system with a fellow PhD student and future co-author, James E. Palmer [6]. Diana Patterson, then ACM SIGDOC Chair, made the following comment about our tutorial in her *Chairman's Corner* field notes [15]: "They built the [help] system based on information they gathered from a survey, and they asked the audience to complete survey forms to help them build their understanding of their model. The system was interesting, but slow, and not very unusual: another CMU toy" [p. 9].

I have always very much appreciated that assessment, in part because the "revolutionary" research that I was doing did not immediately influence the technical communication professionals I thought it would resonate with, and partly because it was quite probably true—I *was* working with "toys," exploring what I now realize was part of the future of the profession and experimenting with systems that would ultimately inform reading and writing in hypertext environments and on the World Wide Web.

But I had also found an intellectual and professional home, somewhere between my interest in writing, reading, rhetorical theory, design, usability theory, and human-computer interaction. ACM SIGDOC appeared to embrace both the complex theoretical challenges presented by information and

[6] From http://www.linkedin.com/pub/nina-wishbow/1/ab7/706.

communication design and the fast-moving, edgy world of technology creation and use, what Buchanan [3] refers to as *neotoric*, "the inherently rhetorical dimension of all design thinking" [4, p. 24].

After finishing my PhD at CMU in 1992, I took a position at North Carolina State University as an Assistant Professor of Rhetoric and Technical Communication and, there, I began my career-long professional relationship with ACM SIGDOC. I attended and presented at ACM SIGDOC conferences in 1992 (Ottawa, Canada), 1993 (Waterloo, Canada), and 1994 (Banff, Canada), served as Conference and Program Chair of the 14th annual international conference on systems documentation, ACM SIGDOC 1996, held in Research Triangle Park, NC, created and chaired our Graduate Student Competition (1996-2007), served as Awards Officer (1997-present), as SIGDOC Representative for the Technical Communication Summit meetings in 1998, and as Program Committee Member for eight annual conferences (1993-present). In 2003, I ran for Vice Chair and lost and, in 2005, I ran for Chair and won, my first of four terms as ACM SIGDOC Chair (2005-present).

ACM SIGDOC IN A NEW CENTURY

The new century began with the organizational realization that a new project, entitled the ACM Portal to Computing (a major addition to the ACM Digital Library), would be adding considerable bibliographic references and important computing literature to the portal each year. References would be cross-linked and both past and present materials added quickly. As well, ACM SIGDOC's once informal newsletter had been transformed into the *ACM Journal of Computer Documentation* and its issues were being added to the ACM Digital Library, thanks to the long-term and creative efforts of T. R. Girill (Editor-in-Chief, LLNL) and Susan Jones (Production Editor, MIT).

The new century also began with a downward trend in membership numbers for ACM SIGDOC. As Kathy Haramundanis, ACM SIGDOC Chair (1997-2003), noted in the SIGDOC Newsletter,

> Over the past few years, nearly all ACM SIGs have been losing members (the exceptions being recently established SIGs in new technology areas), and the ACM continues to examine possible reasons for this decreased interest. As your Chair, I would greatly appreciate any comments on this topic and recommendations for new approaches our SIG can take that would convince both academicians and practitioners to join the SIG and participate as volunteers in SIG planning and conference activities [9, 10].

Membership numbers, counted by paying members, have continued to drop since: 350 members (2003), 284 members (2004), 245 members (2005), 259 members (2006), 233 members (2007), 237 members (2008), 211 members (2009), and 197 members (2010).[7]

[7] From ACM SIGDOC Viability Review Reports (2003-2010).

At the same time, ACM SIGDOC reaches many constituents that may or may not be paying members. In addition to hosting its own organizational website (http://www.sigdoc.org/), ACM SIGDOC shares information through various social media spaces, including Facebook (99 Members), LinkedIn (132 Members), Slideshare (4 Members), Twitter (105 Followers), and Wikipedia (http://en.wikipedia.org/wiki/SIGDOC). As well, ACM SIGDOC's quarterly, online newsletters are archived at http://www.sigdoc.org/newsletter/archives/index.html (thanks especially to Rob Pierce's leadership as editor of the newsletter from 2001-2009).

Definitions of organizational influence are beginning to be much more difficult to establish and, although ACM SIGDOC appears to have gotten smaller over the last decade or more, its reach and influence also reflects the bulkanization of the field of communication design across disciplines, conferences, organizations, and publishing venues.[8] Clearly, ACM SIGDOC research and publications now have a well-established history (35 years) and are downloaded and cited in considerable numbers for use in various fields. Although its conferences are traditionally small (with approximately 60 registrants), the quality of the conference submissions is strong and, with an acceptance rate of approximately fifty percent, the proceedings papers are multidisciplinary and cutting-edge: the last several years have included research emphases on genre theory, interactivity and usability, serious gaming, organizational culture, and social media. Table 3 is an overview of the ACM Digital Library's analysis of ACM SIGDOC's publication history since 1975.

Table 3: ACM SIGDOC bibliometrics: Publication history.

ACM SIGDOC Bibliometrics: Publication history	
Publication years	1075-2010
Publication count	1,974
Citation count	2,746
Available for download	1,865
Downloads (6 weeks)	5,527
Downloads (12 months)	51,188
Downloads (cumulative)	460,351
Average downloads per article	246.84
Average citations per article	1.39

In June 2003, the SIGDOC Board agreed to propose a name change to the Special Interest Group for Systems Documentation to the Special Interest Group for Design of Communication. In Kathy Haramundanis' [11] words, "The new formal name, we believe, more clearly reflects the areas of interest and activity of the SIG that have changed significantly from a time perhaps 20

[8] Searching for "documentation" in the ACM DL shows papers published in *Journal of Systems and Software*, *Journal of Medical Systems*, *COSC: Proceedings of Conference on Organizational Computing Systems*, etc.; "communication" produces many more journals, including *Computers in Human Behavior*, *Communications and Information Theory*, *Education and Information Technologies*, *International Journal of Mobile Communications*, to name a few.

years ago when the main focus of the SIG was indeed documentation. Today people who attend our conferences address issues of usability, Web information construction and design, course materials, distance education, professional training, knowledge management and so on."

Today's ACM SIGDOC members and conference attendees are also from a wide range of fields (united by a common interest in the relationship between text and technology) and from many countries and institutions. Conferences since 2005 have been located in Coventry, UK, Lisbon, Portugal, Sao Paulo, Brazil and, in 2011, will be held in Pisa, Italy (see http://www.sigdoc.org/conference/). Table 4 lists the top twenty-five institutional affiliations by paper count.

Table 4: ACM SIGDOC top twenty-five institutional affiliations by paper count.

Affiliations by Paper Count	Paper Count
IBM	148
University of Sao Paulo	73
University of Washington	63
Carnegie Mellon University	56
Massachusetts Institute of Technology	50
North Carolina State University	46
Tsinghua University	39
University of Waterloo	38
Hewlett-Packard Laboratories	36
University of Surrey	28
Georgia Institute of Technology	26
University of Text at El Paso	24
University of Memphis	23
Harbin Institute of Technology	22
Microsoft Research	22
University of California	22
Rensselaer Polytechnic Institute	21
University of Maryland	21
Shanghai Jiao Tong University	19
University of Michigan	19
Nanjing University	18
The University of Texas at Austin	18
Michigan State University	17
National University of Defense Technology	17
Xerox Palo Alto Research Center	17

THE FUTURE OF ACM SIGDOC

An increase in journals, professional societies, and the distributed nature of the "field" of technical communication has led to reduced membership in ACM SIGDOC (the "why should I pay for it if it's available on the Web?" effect). But, if long-term influence over a wide-range of research issues of interest to both academic and nonacademic professionals working in the broadly-defined area of communication design is the ultimate mission of ACM SIGDOC, then the thirty-five year old SIG is very healthy and has an exciting future.

During the last three and a half decades, ACM SIGDOC members have witnessed, contributed to, researched and published on early attempts to assist programmers through the explosion in end-user print documentation through the advent of the hypertext documents and the World Wide Web to the social-collaborative support spaces that we design for today.

Rather than concluding with a list of emerging technologies that promise to change the way we design communication over the coming decade (e.g., mobile computing, augmented reality, open source information, gesture-based interfaces, cloud computing, etc.), it may be more illuminating to simply list authors who have published in the ACM SIGDOC journal or proceedings and who have subsequently published books over the last thirty years. Not only have these ACM SIGDOC authors found audiences for their work through our organization they are also leaders in the multidisciplinary field and, indeed, have helped us define, refine, and set its future course (see Table 5).

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Table 5: ACM SIGDOC representative authors and books.

Author	Book Title (Year)
Abbott, R. J.	*An integrated approach to software development* (1986)
Akscyn, R. M.	*The ZOG approach to database management* (1984)
Albers, M.	*Content and complexity* (2003), *Communication of complex information* (2004), and *Usability of complex information* (2010)
Barnum, C. M.	Edited *Techniques for Technical Communicators* (1992), *Usability testing and research* (2001), and *Usability testing essentials* (2010)
Barrett, E.	Edited *The society of text* (1989), edited *Sociomedia* (1994), co-edited *Contextual media* (1997), and authored *The MIT guide to teaching Web site design* (2001)
Bernhardt, S. A.	Co-authored *Writing at work* (1997) and co-authored *Metaphor and knowledge* (2003)
Bodker, S.	*Computers and democracy* (1987), *Work-oriented design of computer artifacts* (1988), and *Through the interface* (1990)
Bolter, J.	*Writing space: computers, hypertext, and the remediation of print* (1991)
Borenstein, N.	*Programming as if people mattered* (1994)
Borland, R.	17 *Microsoft Windows* books (1990-1998)
Brasseur, L. E.	*Visualizing technical information* (2003)
Brockmann, R. J.	*Writing better computer user documentation: From paper to online* (1986) and *Twisted Rails, Sunken Ships …* (2004)
Campbell, B.	Six *Microsoft and PC* product books (1990-1993)
Carroll, J. M.	*The Nurnberg Funnel: Designing minimalist instruction for practical computer skill* (1990)
Chapline, J. D.	Authored original ENIAC and UNIVAC user manuals
Author	**Book Title (Year)**
Cooper, A.	*About face: The essentials of user interface design* (1995)
Dautermann, J.	Co-edited *Electronic literacies in the workplace* (1996) and authored *Writing at Good Hope* (1997)
Dewhurst, S.	*C++ gotchas: Avoiding common problems in coding and design* (2002)
Doheny-Farina, S.	*Rhetoric, innovation, technology: Case studies of technical communication in technology transfer* (1992)
Duffy, T. M.	Co-edited *Designing usable texts* (1985), *Constructivism and the technology of instruction* (1992), and co-authored *Online help: Design and Evaluation* (1993) and *Learner-centered theory and practice in distance education* (2003)
Ehn, P.	Co-authored *Computers and democracy* (1987) and authored *Work-oriented design of computer artifacts* (1988)
Erickson, T.	Co-edited *HCI remixed* (2007)
Farkas, D. K.	Co-authored *Principles of Web design* (2001)
Goswami, D	Co-edited *Writing in nonacademic settings* (1986) and authored *On teacher inquiry: Approaches to language and literacy research* (2009)
Hackos, J.	*Managing your documentation projects* (1994)
Hallgren, R. C.	*Interface projects for the Apple II* and *for the TRS-80* (1982)
Haramundanis, K.	*The art of technical documentation* (1997)
Hill, C. A.	*Defining visual rhetorics* (2004)
Horn, R. E.	*Mapping hypertext* (1990) and *Visual Language* (1999)
Horton, B.	*Designing and writing online documentation* (1990)
Johnson. R. R.	*User-centered technology* (1998)
Johnson-Eilola, J.	*Nostalgic angels* (1997), *Designing effective web sites* (2001), *Datacloud* (2005)
Krull, R.	*Word processing for technical writers* (1988)
Landauer, T.	*The trouble with computers: Usefulness, usability, and productivity* (1996)
Lesk, M.	*Practical digital libraries* (1997) and *Understanding digital libraries* (2004)
Marcus, A.	*Graphic design for electronic documents and user interfaces* (1992)
Mehlenbacher, B.	Co-authored *Online help: Design and evaluation* (1993) and authored *Instruction and technology: Designs for everyday learning* (2010)
Miller, C. R.	Co-edited *Rhetorics and technologies* (2010)
Author	**Book Title (Year)**
Miller, G. A.	*Language and Speech* (1981) and *Psychology: The science of mental life* (1998)
Mirel, B.	*Interaction design for complex problem solving* (2003)
Neumann, P.G.	*Computer-related risks* (1994)
Norman, D.	*Things that make us smart* (1994), *The design of everyday things* (1998), *Emotional design* (2005), *The design of future things* (2009), and *Living with complexity* (2010)
Patterson, D.	*The computer documentation kit* (1984)
Perlman, G.	*Unix for software developers* (1987)
Porter, J. E.	*Audience and rhetoric* (1991) and *Professional writing online* (2000)
Ramey, J. A.	*Field methods for software design* (1996)
Redish, J.	*User and task analysis for interface design* (1998)
Rockley, A.	*Managing enterprise content* (2002)
Rogers, W. A.	*Designing for older adults* (2009)
Rubens, P.	*Science and technical writing* (1994)
Schriver, K. A.	*Dynamics in document design* (1996)
Selber, S. A.	Authored *Multiliteracies for a digital age* (2004) and co-edited *Rhetorics and technologies* (2010)
Shneiderman, B.	*Designing for user interface: Strategies for effective human-computer interaction* (1987) and *Leonardo's Laptop* (2003)
Siemens, R.	*A companion to digital humanities* (2008)
Spinuzzi, C.	*Tracing genre through organizations* (2003) and *Network* (2008)
Sullivan, P. A.	Co-edited *Electronic literacies in the workplace* (1996) and *Opening spaces* (1997)
Swarts, J.	*Together with technology* (2007)
Talburt, J. R.	*Entity resolution and information quality* (2010)
Tharp, A. L.	*File organization and processing* (1988)
Tufte, E.	*Envisioning information* (1990), *The visual display of quantitative information* (2001), and *Beautiful Evidence* (2006)
Weiss, E. H.	*How to write a usable user manual* (1985)
Winograd, T.	*Understanding computers and cognition: A new foundation for design* (1986)
Weinberg, G. M.	*The psychology of computer programming* (1998) and *General systems thinking* (2001), Silver Editions
White, J. V.	*Designing for magazines* (1982), *Great pages* (1990), and *Editing by design* (2003)
Wright, P.	*Information design* (1992)
Yourdon, E.	*Object-oriented design* (1991) and *Byte wars* (2002)
Zachry, M.	*Communication practices in workplaces and the professions* (2007)