Defining the Role of a Technical Communicator in the Development of Information Systems

Abstract—The profession of technical communication is difficult to define in scope, and the work performed by its members is even more difficult to quantify. The work crosses many disciplines and the skills needed to effectively undertake these tasks are broad. In the area of systems development, technical communicators have the skills to perform many tasks, especially those related to human factors, and yet much of their contribution goes unrecognized. A recent survey of Australian technical communicators sought to more clearly identify their work in the area of systems development; this paper presents and discusses the results of that survey.

Index Terms—Information systems, technical communicator.

The profession of technical communication is not easily defined in part because the profession encompasses a wide range of skills and crosses many professional boundaries [1]–[3]. Even among researchers of technical communication there are disparate views of who technical communicators are and what they do. Beck suggests “Perhaps one reason for this lack of definition comes from the inherent diversity within the field, a diversity that expands as the membership increases” [3, p. 539]. The research reported in this paper is an attempt to identify the less obvious roles technical communicators can and are playing in the development of information systems in Australia. The research is based on a national survey of Australian technical communicators conducted in 1996. The findings suggest that technical communicators are playing a much greater role in the development of systems than might previously have been acknowledged. The results show that the contribution of technical communicators is enhanced if they are involved early in the software development process. Australian technical communicators, like their United States counterparts [4], work in a wide range of industries performing a variety of roles. Much of their contribution to the development of information systems is subtle and is frequently unrecognized. The literature reports on a number of activities that technical communicators could or should contribute to; however, there is little reported research on the extent to which these roles are in fact being performed.

The Technical Communicator’s Skills

Before discussion of the tasks performed by technical communicators, it is important to establish their key skills. The key findings of three surveys of technical communicators were used to compile
the framework of skills presented in Table I.

The skills identified in Table I are those that are likely to qualify technical communicators to participate in other areas of information systems development.

### The Technical Communicator's Role in Information Systems Development

A review of the current literature identified four other key tasks (i.e., those separate from writing user manuals) through which technical communicators contribute to information systems development. These relate particularly to the human factors aspects of systems. The roles reported in the literature that were explored in the research reported here are discussed below.

**User Advocate** Technical communicators' ability to perform the role of user advocate is well documented in the literature [8], [9]. In talking with users about their information and system needs, technical communicators are able to elicit information about the users' view of the system, and then to convey this information to developers and managers. This task appears to make use of the technical communicator's interpersonal skills (Table I). Levine suggests the skill set of a technical communicator includes what he terms, "behavioral skills," these include: “… listening, managing, influencing, assertiveness, and group process” [10, p. 162].

As user advocates, technical communicators represent the users in team meetings and discussions relating to aspects of the system that impact on usability [11]. Zimmerman describes this as facilitating what no one knew needed facilitating [12]. Boykin and Buonanno describe this role of the technical communicator as that of a collaborator or facilitator [13]. The term “user advocate” is one used by numerous authors in reference to this specific communication role [5]–[9], [14], [15]. There were, however, no reported studies on either the time spent performing the role of user advocate or what this role actually meant to technical communicators in terms of their job description, particularly within the context of developing information systems.

**Writers of Online Help** The skill of writing was identified as a key skill of technical communicators (see Table I). Online help therefore should be a key area where technical communicators can make a contribution to computer systems because of their acknowledged communication and writing skills. Many of the leading authors in the area of technical communication assume that online help is a task technical communicators perform [16], [17]. Although the technical communication literature discusses the writing of online help regularly, it is still not reported as a widely recognized role of technical communicators. Kirsch found that, while 77% of technical communicators he surveyed had worked on software manuals, only 15% had written online help [18].

A more recent Canadian study asked employers what documents technical communicators wrote [7]. Online documents were ranked low in terms of frequency (8th out of 9 documents) suggesting that employers rarely employ technical communicators to produce online help.

The same survey also asked technical communicators to indicate the documents they produced from a standard list [7]. Online documentation was listed in the category “Other,” which also contained curriculum materials and illustrations. Thus even though 72% of technical communicators selected this category as one representing material they produced, no firm conclusions could be drawn as online documentation was not listed separately.

### Table I

<table>
<thead>
<tr>
<th>Skill identified</th>
<th>Researchers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audience analysis is considered a communication skill and includes understanding the audience.</td>
<td>Feinberg &amp; Goldman [5]; Little &amp; McLaren [6]</td>
</tr>
<tr>
<td>Writing skills included grammar/usage, writing mechanics and editing and revising.</td>
<td>Feinberg &amp; Goldman [5]; Little &amp; McLaren [6]; Manitoba [7]</td>
</tr>
<tr>
<td>Layout/illustrations, graphics skills which are used to deliver the message more clearly.</td>
<td>Feinberg &amp; Goldman [5]; Little &amp; McLaren [6]</td>
</tr>
<tr>
<td>Interviewing and interpersonal skills are oral communication skills and include ability to resolve conflict, act as a facilitator, and work on a team.</td>
<td>Little &amp; McLaren [6]; Manitoba [7]</td>
</tr>
</tbody>
</table>
Writers of System and Error Messages  Although writing and communication skills would appear to qualify technical communicators for this task, the literature provides little evidence of technical communicators writing system and error messages. A limited study conducted by Kirsch in 1988 found 19% of respondents had written system messages [18]. There are, however, a growing number of published articles which focus on the importance of clear and helpful system messages for users in technical communication publications [19], [20]. This suggests a growing awareness that technical communicators have a role to play in the design of these messages.

Contribution to the Design of the User Interface  While graphic design, layout, and illustration skills were identified from the research as skills technical communicators have (Table I), the literature does not contend that technical communicators should be interface designers. However, it does strongly argue that technical communicators have a role to play in interface design [9], [21]. While the literature presented a case for the involvement of technical communicators, there is no evidence of how this role is performed in practice.

The Timing of a Technical Communicator’s Involvement in Information Systems Development  The ability of technical communicators to perform the tasks discussed in the previous section is contingent on earlier involvement in systems development [7], [19], [23], [24]. Many authors report that information systems design is improved and enhanced when a technical communicator is part of the design team [7], [9], [14], [24], [25]. The system development life cycle (SDLC) or traditional method illustrates when technical communicators become involved in the development process (see Table II). The SDLC is still the most widely used methodology either in its traditional or in some modified form [22], [23].

“Early involvement” is taken to mean at some stage after the feasibility study has been conducted but before the design phase is finished. The reasoning is that once the system is designed, many of the aspects of a system (such as the human factors aspects that technical communicators can contribute to) are already completed [23]. Once the system is designed changes are difficult to implement. It should be stressed that technical communicators are not necessarily welcome within the systems development process in the early stages and this, to a certain extent, probably explains why authors have found that technical communicators are not currently involved as much as they might be [10], [23].

In sum, the literature suggests that, because of their key skills, technical communicators can or should play roles beyond writing hard copy documentation within the development of information systems. Because there is little reported research on the extent to which these roles are in fact being performed, this research set out to answer the following questions:

• What roles do technical communicators fulfill during the development of an information system?
• Does the work of technical communicators improve the quality of online help and system and error messages?
• At what point in the development process do technical communicators become involved?
• Does the point at which technical communicators become involved affect the contribution they can make?

<table>
<thead>
<tr>
<th>SDLC Phase</th>
<th>Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feasibility Phase</td>
<td>Examine current system.</td>
</tr>
<tr>
<td>Investigation Phase</td>
<td>Initial investigation. Establish requirements.</td>
</tr>
<tr>
<td>System Analysis Phase</td>
<td>Review existing system. Explore alternative solutions.</td>
</tr>
<tr>
<td>System Design Phase</td>
<td>Technical design. Develop detailed design documentation.</td>
</tr>
<tr>
<td>Implementation Phase</td>
<td>Test system. Install system. Write user documentation.</td>
</tr>
<tr>
<td>Review Phase</td>
<td>Identify changes needed. Review system.</td>
</tr>
</tbody>
</table>
RESEARCH METHODOLOGY

At the end of 1996, a postal survey was sent to all members of the Australian Society of Technical Communication (ASTC), 457 surveys were distributed and 210 were returned (46% response rate). The survey was in two parts, Part A asked respondents general demographic questions and at the end of Part A respondents were asked if they had recently worked on a project involving a computer system and, if they had, they were invited to complete Part B; 76% (154) of respondents completed Part B. Data was collected using ordinal and interval scale questions and Likert scale statements, plus an opened-ended question. The data was analyzed statistically and cross-tabulations and factor analysis tests were applied. The qualitative data was analyzed using a meta-matrix. A copy of the questionnaire can be found in the Appendix.

QUANTITATIVE RESEARCH FINDINGS

The first subsection here provides an overview of the roles performed by technical communicators and when they reported getting involved in the development process. The second subsection discusses the results of statistical tests performed on the data in order to determine relationships between the reported roles and the timing of involvement in development. Note that respondents were asked to describe a system they had worked on recently hence could report on the work they had performed on that system.

Timing of Involvement in Information Systems Development

Respondents were asked to indicate at which point of the development process they became involved. The results indicate that many respondents are involved in the process early (66%), with 17% involved at the start of the process (i.e., the feasibility stage), 9% at the analysis stage, and 40% at the design stage. At implementation, 19% became involved and only 6% reported not being called in until the system was completed. Note that the results are based on whether or not respondents indicated they became involved before or during the design process or after design: 102 respondents indicated they became involved in the process at or before the design phase, with 52 respondents involved after design.

Roles Performed in Information Systems Development

Respondents were asked to place a tick in the box next to any of the roles/work that they had performed recently on a system. Fig. 1 presents the results graphically.

The results indicate that respondents are working on many aspects of systems development. The top three were: writing user guides (73%), performing the role of user advocate (70%), and writing training materials (66%). Online help
was written by 59% of respondents. The three lowest responses were: contribution to the design of the user interface (38%), working on hypertext documents (44%), and writing system and error messages (29%).

In addition, respondents were presented with a list of materials and asked to indicate which ones they produced most often and which they produced regularly. Half of the respondents indicated they were writing online help (50%), of which 24% indicated it was the material they produced most frequently. Only 13% reported producing system and error messages, with 7% indicating it was the material they produced most frequently.

Time Spent on Specific Tasks
Another indicator of the level of involvement in specific tasks is the time spent on that task. Respondents were asked to indicate how much of their time (within the specific project) they spent on the listed tasks. Fig. 2 summarizes the results.

Fig. 2 indicates that most technical communicators spent some time talking with users (73%) and many were involved in the writing of online help, with nearly 75% spending some time on that activity. However, less than 30% spent any time writing system and error messages. Note that any time spent on the task is taken to mean involvement in that task.

Other Measures of Involvement
In order to explore other aspects of technical communicators’ work that were not as easily quantified as those mentioned above, respondents were presented with a series of statements and asked to indicate the level to which they agreed or disagreed with the statement (measured on a five-point Likert scale). The aspects presented in the statements involved: consultation with developers on interface design issues, consultation with users, and the role of user advocate. Table III presents the statements and the results.

The results in Table III confirm that technical communicators are involved in other less well recognized activities with systems development: 32% are consulted on the error message text, 25% are consulted on screen icons, 39% are prepared to talk to developers if the users are not happy with the interface, and 73% will tell developers if the interface design is not appropriate. Consistent with the other findings, a high percentage of respondents report talking with users (45%) and performing the role of user advocate (52%). Note that the calculation of percentages, for the tasks presented to respondents in the form of statements, is based on both agreed strongly or agreed responses to the relevant statement.

CROSS-TABULATION ANALYSIS OF QUANTITATIVE RESEARCH RESULTS
A series of cross-tabulations were performed to establish if technical communicators believed their performance of specific tasks improved the quality of the material and also if the point in the development process when respondents became involved had any impact on the tasks they performed.

Quality of User Material and Involvement of Technical Communicators
The question of the percentage of time spent writing online help was cross-tabulated with the statement relating to the perceived quality of the online help. Not surprisingly, where respondents reported writing a high percentage of the online help, they perceive its quality to be better. This was highly statistically significant. However, when the same cross-tabulation was done
on the time spent writing system and error messages compared with respondents' assessment of the quality of the error message text, there was no statistically significant relationship between the results. This suggests respondents may be more objective about their impact on the quality of systems of development activities than might have been expected.

The Importance of Early Involvement on Technical Communicators’ Contribution

The question of when respondents became involved in the development process was cross-tabulated with a number of questions and statements relating to respondents' involvement in the development process and the tasks they performed. Table IV presents the questions and statements and the chi-square test results for each cross-tabulation where the results were statistically significant.

The results strongly indicate that when the respondents were involved at or before the design stage of the development process, they were a) more likely to be writing online help and system and error messages, b) more likely to be consulted by developers on the

### TABLE III
TECHNICAL COMMUNICATOR’S LEVEL OF AGREEMENT WITH STATEMENTS MEASURING THEIR INVOLVEMENT IN LESS WELL-RECOGNIZED TASKS WITHIN SYSTEMS DEVELOPMENT

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree strongly</th>
<th>Agree</th>
<th>NA</th>
<th>Disagree</th>
<th>Disagree strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am consulted by developers on the screen and error message text.</td>
<td>13</td>
<td>8%</td>
<td>37</td>
<td>24%</td>
<td>37</td>
</tr>
<tr>
<td>I am consulted by developers on the screen icons provided with the system.</td>
<td>9</td>
<td>6%</td>
<td>29</td>
<td>19%</td>
<td>50</td>
</tr>
<tr>
<td>I speak with users and convey their views about the interface to the developers.</td>
<td>25</td>
<td>16%</td>
<td>35</td>
<td>23%</td>
<td>45</td>
</tr>
<tr>
<td>I tell the developers when the interface design is not appropriate for users.</td>
<td>58</td>
<td>38%</td>
<td>54</td>
<td>35%</td>
<td>20</td>
</tr>
<tr>
<td>I perform the role of user advocate or act as a facilitator.</td>
<td>37</td>
<td>24%</td>
<td>43</td>
<td>28%</td>
<td>34</td>
</tr>
<tr>
<td>I consulted with users regularly on their views and needs of the system.</td>
<td>26</td>
<td>17%</td>
<td>44</td>
<td>28%</td>
<td>35</td>
</tr>
</tbody>
</table>

### TABLE IV
RELATIONSHIP BETWEEN STATEMENTS MEASURING TECHNICAL COMMUNICATOR’S INVOLVEMENT IN SYSTEMS DEVELOPMENT TASKS AND THE STAGE AT WHICH THEY BECAME INVOLVED IN THE DEVELOPMENT PROCESS. (ALL RESULTS ARE STATISTICALLY SIGNIFICANT AT 0.05 OR LOWER; RESULTS LOWER THAN 0.005 ARE HIGHLY STATISTICALLY SIGNIFICANT)

<table>
<thead>
<tr>
<th>Statement (Cross-tabulated with time of involvement in the development process)</th>
<th>Chi-square test for statistical significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What percentage of time did you spend writing online help?</td>
<td>.0049</td>
</tr>
<tr>
<td>2. What percentage of time did you spend writing system and error messages?</td>
<td>.01858</td>
</tr>
<tr>
<td>3. I am consulted by developers on screen and error message text.</td>
<td>.01318</td>
</tr>
<tr>
<td>4. I am consulted by developers on the screen icons provided with the system.</td>
<td>.00475</td>
</tr>
<tr>
<td>5. I tell the developers when the interface design is not appropriate for users.</td>
<td>.03086</td>
</tr>
<tr>
<td>6. I perform the role of user advocate or act as a facilitator.</td>
<td>.01974</td>
</tr>
</tbody>
</table>
interface, and c) more likely to be performing the role of user advocate.

Table V summarizes the key findings of the cross-tabulations presented in Table IV.

Fig. 3 graphically presents these results. This figure makes it clear that talking with users and being a user advocate are different roles: while 48% of those involved after design of a system reported spending time talking with users, only 11% reported that they performed the role of user advocate.

**Qualitative Research Findings**

An open-ended question asked respondents if they believed they added value to the development process and, if so, to describe how. The response to this question was very high with 69% of respondents providing an answer ranging in length from a short sentence to several paragraphs. The responses were analyzed using a meta-matrix where individual responses were categorized and placed in the appropriate cell of the matrix [26]. The responses indicate strongly that respondents believed they added value in all the areas discussed (i.e., writing online help and error messages, assisting with communication with users, performing the role of user advocate, and commenting critically on the design of the user interface). In addition, 13% of respondents made reference to the role of “system testing,” a role not previously explored or referred to in the literature. In the words of one respondent “I perform the role of unofficial bug finder.”

**Discussion**

The Australian survey results confirm that technical communicators are involved in many aspects of information systems development, beyond the traditional role of writing user documentation. The key roles that have emerged from the survey reported here are:

1) **User advocate:** A factor analysis confirmed that respondents understood the role of user advocate to be one involving a level of interaction with users and representing users on the development team. Around three-fourths of respondents indicated they are performing this role.

2) **Writing online help:** Although online help for many systems is not produced by a technical communicator, the survey indicated that there is a higher level of involvement in this task than has been previously reported (more than half of the respondents said they perform this role). Furthermore, the results indicated that the quality of the online help, at least in the eyes of the respondents, was improved when technical communicators were involved.

3) **Writing system and error messages:** The survey data confirmed that technical communicators are still not often asked to write error message text, although more are performing this role than has been previously reported (about one-third said they perform this role). The survey did find that, although technical communicators may not be writing system and error text, more than one-third said they are being consulted by the developers about the messages.

4) **Interface design:** The literature suggests technical communicators have a role to play in the design of the user interface but does not provide any details about how this role is being performed or how many technical communicators may be working on user interface design. The survey indicates that many technical communicators are working with developers on

<table>
<thead>
<tr>
<th>Task</th>
<th>Percentage performing task and involved at or before design</th>
<th>Percentage performing task and involved after design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time spent writing online help</td>
<td>58%</td>
<td>38%</td>
</tr>
<tr>
<td>Time spent writing system and error messages</td>
<td>32%</td>
<td>17%</td>
</tr>
<tr>
<td>Time spent talking with users</td>
<td>70%</td>
<td>48%</td>
</tr>
<tr>
<td>Developers consulting on screen icons</td>
<td>27%</td>
<td>11%</td>
</tr>
<tr>
<td>Developers consulting on error message text</td>
<td>38%</td>
<td>17%</td>
</tr>
<tr>
<td>Performing role of user advocate</td>
<td>77%</td>
<td>11%</td>
</tr>
<tr>
<td>Telling developers if interface is not appropriate</td>
<td>77%</td>
<td>52%</td>
</tr>
</tbody>
</table>
Fig. 3. Comparison of tasks performed by technical communicators relative to the timing of their involvement within systems.

Fig. 4. Model of less well-recognized contributions of technical communicators in Australia within information system development.
the design of the interface. However, three-quarters of the respondents said are providing developers with unsolicited comments, while only one-quarter reported being actively consulted by developers about icons and other interface design features.

Based on the findings from the survey the model in Fig. 4 was developed to describe the role of technical communicators in the system development process at the time of the survey. Fig. 4 (based on the traditional SDLC shown in the middle) shows the tasks technical communicators who are involved early in the development process are performing (left side of the figure) and the percentage who became involved at each stage (right side of the figure).

CONCLUSIONS
This paper presents the results of work that represents one of the first attempts to quantify the work of technical communicators in the information system development area. The results suggest that technical communicators perform tasks that are generally not recognized as part of their role: the design of the user interface and the writing of system and error messages. Although many technical communicators are writing online help, many systems contain online help written by others. Technical communicators still have some way to go to convince those developing information systems that their key skills as communicators should be more effectively exploited.

APPENDIX

The 1996 ASTC Member Survey

Part A: Please answer the following questions according to the instructions given. If you work as a contractor or consultant please answer the questions as they relate to your most recent position or current work.

1. Personal Information
1.1 Age Circle the range that contains your age.
[18–23] [24–29] [30–35] [36–41] [42–47] [48–53] [54+]
1.2 Sex (Please circle) Male/Female
1.3 Postcode Home postcode Work postcode
1.4 Education—Tick your highest level of education.
□ Secondary. □ Tertiary: please state your qualifications
Do you have a formal qualification in technical communication? Yes/No
If yes please specify what that qualification is __________________________

1.5 Work Experience
Circle the number of years you have worked as a technical communicator.
[0–2] [3–5] [6–10] [11–15] [15+]

Have you always worked as a technical communicator? Please circle Yes/No
If NO what was your previous profession/s? __________________________

2. Work Information
2.1 Type of Employer (Client if a contractor)
Tick the box next to the industry in which you have worked most in the last two years.

Agriculture, forestry, fishing
Community Services
Computing Software/hardware
Construction
Communication/telecommunications
Electricity, gas and water
Education/Training
Electronics/Electrical Engineering
Finance/banking
Insurance
Manufacturing
Medicine/Pharmacy
Property and business services
Public administration and defence
Publishing
Recreation, personal & other services
Research and development
Science
Transport and storage
Wholesale and retail trade
Other (Please specify)
2.2 Size of the organization
Circle the range to indicate the number of employees in the organization in which you work
[5] [6–15] [16–25] [26–35] [36–49] [50–80] [81–100] [101–150] [>150]

2.3 Tasks performed
The following is a list of tasks you may perform in the process of doing your job. Of the tasks you perform rank each task as 1 (important) to 3 (not important) as it applies to your work.

Audience analysis  Product design  Staff development
Coworker supervision  Programming  Stylistic editing
Design and layout  Project design  Substantive editing
Estimating  Project management  Task analysis
Formatting  Prototyping  Training
Human factors analysis  Quality control  Translating
Illustration creation  Requirements analysis  Usability testing
Interviewing  Research  Writing

If you perform other tasks that are not listed what are they? ______________________

2.4 Type of Material Produced
Place the number 1 in the box closest to the type of material you produce most often. If you produce another type of material place a 2 in the box closest to that type of material

Brochures, press releases, magazine articles  Software manuals
Hardware manuals  System messages
Online Help text  Technical illustrations/photographs
Procedure manuals  Tenders or other submissions
Quick reference guides  Training Materials
Reports  Other (Please specify) __________

Circle the delivery medium used most often.
Audio  Paper  On-Line  Video  Other (Please specify)

3. Have you recently worked on or are you currently working on some aspect of a computer system?  YES/ NO  If yes please complete the next section.

Part B—Adding Value
The following questions are for technical communicators who work on some aspect of computer systems or who have recently completed work involving a computer system.

Purpose: In addition to writing user documentation, technical communicators may be involved in other aspects of developing computer systems. The purpose of this survey is to find out what these roles are and to find out the time spent on each. Part of this project also is to establish what value technical communicators add to the system development process. Please complete the following questions drawing on experience from a system you are currently involved with or have recently worked on.
Key terms/Phrases

Development team
People responsible for developing the system, may include technical communicators

User interface design
Involvement with any aspects in the design of the user interface

Online help or context sensitive help
User documentation that is provided in some online format

Hypertext help
Online help with links to other ‘help’ information

System
Computer software that involves user interaction

System or error messages
Messages to users during their interaction with the system

User advocate
Person acting on the users’ behalf, communicating user views and needs to developers or between different sections of the organization

1. General

1.1 Following is a list of roles/work technical communicators may be involved in. Place a tick in the box next to any of these roles you may have performed on a system recently

<table>
<thead>
<tr>
<th>Interface design</th>
<th>User advocate</th>
<th>User guides, quick reference cards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member of the development team</td>
<td>User advocate</td>
<td>Writing system/error messages</td>
</tr>
<tr>
<td>Preparation of training material</td>
<td>Writing online help</td>
<td>Work on hypertext documents</td>
</tr>
<tr>
<td>System testing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>User contact and communication</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What percentage of systems, that you work on are provided with online help?

1.2 Which aspects of a system do you believe are important for effective use by users? Place a number next to each item to indicate the level of importance. (1 High - 5 Low)

<table>
<thead>
<tr>
<th>Effective user manuals</th>
<th>System has a logical work flow</th>
<th>Interface design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective online help</td>
<td>Hypertext linked help</td>
<td>System ease of use</td>
</tr>
<tr>
<td>Consistent terminology</td>
<td>Meaningful system/error messages</td>
<td></td>
</tr>
</tbody>
</table>

1.3 Describe in a sentence, the most recent system you have worked or are working on

1.4 At what stage of development was the system, before you became involved? Please circle.
Feasibility/investigation Analysis Design Implementation Completed/installed Don't Know

Thinking about the last system you have worked on, answer the following questions by placing a tick in the appropriate box. The box at the top of each section indicates the options for each answer.
Question | 0% | <25% | <50% | <75% | 100%
--- | --- | --- | --- | --- | ---
1. What percentage of time did you spend writing online help?
2. What percentage of time did you spend writing system and error messages?
3. What percentage of time did you spend on usability testing user documentation, both online and user manuals?
4. In terms of the total project, what percentage of time did you spend talking with users?
5. What percentage of the system was usability tested with users?

| Agree strongly | Agree somewhat | No opinion or N/A | Disagree somewhat | Disagree strongly |
--- | --- | --- | --- | ---
6. The online help provided with the software I work on is effective for users.
7. I am consulted, by developers, on the screen and error message text.
8. The system and error messages provided by software I work on are clear and helpful for users.
9. I am consulted, by developers, on the screen icons provided with the system.
10. I speak with users and convey their views about the interface to the developers.
11. I tell the developers when the interface design is not appropriate for users.
12. Users have an opportunity to express their views to the system developers.
13. I perform the role of user advocate act as a facilitator, developers.
14. I consulted with users regularly on their views and needs of the system.

For the following questions please circle your response or if no response matches enter the answer in the space provided.

15. Were you included on the software development team early in the development process?
   Early would be some time before the actual coding of the system began. **Yes / No**
   Comment

16. If you are involved early in the development process, do you believe your contribution is of value to the systems development process? **Yes / No**
   Comment
17. Did someone else write the system and error messages? Yes / No /
   If YES, please specify who __________________________

18. Did someone else write the online help? Yes / No /
   If YES, please specify who __________________________

19. Was someone else involved in interface design? Yes / No /
   If YES, please specify who __________________________

20. Did someone else conduct the useability testing. Yes / No /
   If YES, please specify who __________________________

21. Is someone else working with / talking to users? Yes / No /
   If YES, please specify who __________________________

**Briefly describe how you believe your work adds value to the development of computer software.**

**REFERENCES**


Julie Fisher (M’98) is a senior lecturer at Victoria University of Technology, Melbourne, in the Department of Information Systems. Julie has been interested in the area of technical communication for a number of years and has presented papers at various conferences including the Professional Communication Society and the Society for Technical Communication. Julie has just completed the Ph.D. degree looking at information systems development and the role of the technical communicator.