Chairperson and Secretarius Meeting Guides for Electronic Meeting Direction

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Abstract—**Facilitation and guidance of computer-supported meetings is a well-known activity that can be supported electronically. Various forms of facilitator support have been developed over the years. This paper presents a unique method for meeting guidance for formal, distributed electronic meetings in the form of *meeting guides*. The method is Web-based and applies the meeting agenda for creation of agenda support points by both the chairperson and secretarius. Meeting guides provide other functionality such as meeting reminder creation and application and meeting guidance instructions.**

Keywords-component; Meeting guides; electronic meetings, agenda.

I. Introduction

Meetings are undoubtedly an important form of decision-making conducted by organisations. Computer-supported, or electronic, meetings are the computer-based version of meetings carried out by a group. In some cases, they can be formal meetings in the mould of traditional, structured meetings conducted for several decades. These formal meetings are supported in the work of the author; additionally, the meetings are distributed so that group members are physically dispersed and participate from their desktops via the Internet.

Facilitation has been the concept associated with assisting a meeting in its preparation, conduct, winding down and so forth and with a plethora of tasks such as prompting group members to contribute to discussion, decision making or agenda creation. Facilitation has been researched for many years and different forms of facilitation have been developed.

In the author's work, the group is presumed to have both a chairperson and a *secretarius*. A secretarius is the group member assigned various administrative functions such as creating the meeting agenda or minutes. The agenda, consistent with the agenda in traditional meetings regarding its structure and purpose, will contain a set of items that are to be discussed during the meeting.

The system in which meeting guide functionality is incorporated is *Logan*, a Web Electronic Meeting Document Manager (*WEMDM*). Logan provides different functionality for support of document management, such as agenda creation [1] and derivative generation [2]. It is a totally Web-based system that is used by participants found at different geographical locations. As a WEMDM, the system is expected to be used at the same time as a chat tool or instant messenger, where the latter tool is used for communication purposes. In this paper, such a communication tool will be referred to as the *discussion tool* and Yarn [3] is the tool used in the examples. An electronic meeting will have the following phases:

- startup phase: this is the initial part of the meeting where software is launched and tested in preparation for the discussion phase

- discussion phase: the actual part of the meeting where discussion of the agenda occurs

- windup phase: software is closed down and the meeting is completely ended

This paper and the concern of the author's work is on meeting guidance and direction. In using facilitation as the framework to explain the author's work, this work firstly addresses the aspect of facilitation that deals with conduct of the meeting and the accomplishment of discussion by participants. Clearly it is goal for meetings to be more productive. Meetings can occupy a large amount of time in certain organisations, particularly where much of the operation of the organisation is dependent upon decision-making and outcomes from meetings. Stimulating effective, and even efficient, discussion of issues during meetings is without doubt essential to productive conduct of meetings, and this should lead to relevant outcomes that can be utilised by the organisation. Hence, this work specialises on stimulation of useful discussion.

The work secondly addresses the aspect of effective and efficient conduct of the meeting. This is in form of meeting guidance instructions, meeting reminders and functionality dealing with the status of a meeting.

II. Literature Review

Guidance or direction of different types of computer-supported group interaction has been in the form of facilitation over the years. A person is dedicated to the role of facilitator and is involved in assisting participants in their meetings. Macaulay and Alabdulkarim [4] are correct in their assumption that "the purpose of providing ICT support for facilitation is to improve productivity and increase the effectiveness of e-meetings" [4, p. 728]. Viller [5] describes five sub-tasks into

which facilitation can be decomposed, for instance, management of the agenda, observation of the group process or diagnosis of problems.

Some examples of work on facilitation are covered here, and it should be kept in mind that the work here does not overlap with the meeting guide functionality described in this paper.

Antunes and Ho [6] discuss assistance for the facilitator in the form of a group decision support tool for meeting preparation. Extending the decision model of Kaner [7] which involves the levels of zones, strategies and activities, Antunes and Ho add task and tool levels. Their tool implements the new decision model and provides email notification, calendar, participant roster, the capability to select a group decision support system, a customised view used by facilitators for performing tasks like time management and creation of post-meeting reports. Their evaluation of the tool revealed that a variety of agendas are generated from the tool and their clarity appeared to increase.

Vivacqua, Marques, Ferreira and de Souza [8] perform an investigation of information needs occurring within facilitation activities. Their interest lies in the evaluation of meeting progress and dynamics with regard to the group straying from achieving its objective. Through analysis of group dynamics, the facilitator knows when to intervene or restructure the meeting. The researchers discuss meeting indicators that reflect how the meeting is going. For instance, "Group Participation Rate" will indicate how group members are contributing to the discussion and "Idea Discussion" indicates the extent of discussion that is produced by an idea.

The researchers implement their theory in Vivacqua, Marques and de Souza [9] where a system for meeting facilitation is described. The system supports idea generation during the meeting. In one sense this functionality is in the same area as that of Logan in that meeting content is created by their system's idea generation tool and Logan provides agenda support points. However, the difference is that in the work of Vivacqua et al the facilitator is required to be neutral during discussion but may prompt participants if necessary. In the work of the author, the chairperson has the potential to be highly involved in discussion and is being provided the functionality to support them in their own discussion as well.

III. MEETING GUIDE FUNCTIONALITY

Although all participants contribute to discussion, ultimate responsibility for a meeting's productivity and sense of direction lie with the chairperson. The chairperson must be assisted with a form of meeting guidance that will maximise productivity of the meeting and provide participants with direction in discussion.

The agenda forms the basis of guiding the meeting. Participants understand that discussion—with its associated processes of brainstorming, negotiation, etc.—is determined by agenda contents. Hence, the agenda is clearly the basis from which a highly effective tool (the *meeting guide*) aids

productive discussion. Further augmentation to agenda information allows for improved application of discussion items.

Figure 1 shows an example of a partial Logan agenda. Five columns of the tabular form of the agenda present: (a) item number, indicating where in the agenda the item is placed, (b) the item to be discussed, (c) the maximum amount of time allocated to discussion of the item, (d) the group member responsible with starting discussion of the item, and (e) documents, if any, that will be used in discussing the item. For instance, item number 4 is set aside to discuss the benefits of computer-supported meetings for a maximum of 20 minutes— Sue Smith will initiate discussion of the item using a "Benefits" document.

Item number	Item	Time	Initiator	Documents
1	Apologies	1	Chairperson	
2	New items	5	Chairperson	
3	Matters arising from minutes of last meeting	15	Chairperson	Minutes of 27/10/2007
4	Benefits of electronic meetings	20	Sue Smith	Benefits

Figure 1. Logan agenda

Productive discussion is enhanced by *agenda support points*. By creating support points, the chairperson and secretarius plan and organise discussion for the meeting (either independently of each other or even collectively). In doing so, these participants structure the most effective discussion possible according to their knowledge of issues. Accounting for time allocated to items, the chairperson and secretarius plan the most efficient discussion. Support point creation eliminates the need for storage of ideas elsewhere, such as in separate electronic documents acting as "scrap notes" (most certainly, paper is eliminated). Other Web mechanisms such as links can be included in support points. Hence, link inclusion allows opportunity to provide extra supporting documents that further encourage discussion.

In planning discussion for a meeting, it must be noted that neither the chairperson nor secretarius dictates discussion. Ultimate responsibility for discussing issues and achieving outcomes from discussion lies with participants. The set of points that the chairperson and secretarius construct provide direction and stimulate productive discussion given the time allocations to items. The points created are not solely the basis for discussion. Indeed, participants, particularly those initiating item discussion, are more aware of issues than those administrating discussion. The participants are expected to discuss issues principally, where the participants are responsible for finding outcomes and decisions. However, the chairperson and secretarius can readily introduce points that

[Meeting instructions | Agenda support | Support point modification form]

Meeting guidance instructions

The chairperson is responsible for performing the following activities during a meeting.

Time of occurrence in meeting	Task		Instruction
Beginning	Opening meeting		A brief statement required, e.g. "Mtg opened"
During	Agenda review		After opening the meeting, a brief statement required, e.g., "Pls view mtg purpose and agd itms"
	Agenda item commencement		Signal used by itself on any line of a remark: Agenda <item number> e.g., Agenda 3.1
	Agenda item discussion initiation		The chair passes the floor to the participant specified as the initiator of the discussion. S/he uses a statement such as: Over to u, <participant name> e.g., Over to u, Peter.
	Remark interruption		To halt a participant during the making of a remark: int
	Voting	To initiate voting on an issue	startvote <topic>
		To display the number of votes entered for the issue	votestatus
		To collate results and display them	collect
End	Wind up initiation		The chair: 1. indicates the meeting is concluded, and 2. passes the floor to the secretarius to summarise the meeting. S/he uses statements such as: Mtg wrapup. Over to u, sec.

[Index]

Figure 2. Guide page index and instructions section of Chairperson meeting guide

lead to further discussion, question participants' remarks, provide alternative viewpoints, and so forth. After an item has been accepted in the agenda, it is expected that effective discussion of the item would ensue. Lack of fruitful response from participants is counterproductive to the purpose of having the discussion. Chairperson and secretarius usage of agenda support points is a strong endeavour to ensure that discussion is as productive as possible.

A Logan meeting guide not only is designed for discussion, but is a fully-functional tool for various aspects of meeting conduct. As a whole, meeting guides:

- instruct the chairperson or secretarius in their role in the meeting—presenting in order tasks that are to be performed during the meeting, providing commands to be executed in the discussion tool, and so forth

- allow for reminding participants of any meeting-related details

- provide functionality for change of meeting status, including abnormal termination of a meeting—meeting status change affects other parts of Logan

- support summary point generation for later use in minutes creation, allows the secretarius to accumulate points included during the summary activity of the windup phase

Chairperson and secretarius instructions are fixed and so are not adjusted. Like other administrative pages in Logan, the guides have a yellow page background.

A. Chairperson Meeting Guide

The chairperson meeting guide provides the chairperson with support of: instructions of tasks to be performed during the startup, discussion and windup phases; agenda support point creation and agenda support point viewing.

Both the chairperson meeting guide and the secretarius meeting guide are a single Web page with several sections. For illustrative purposes, the user interface of the guide has been divided into three sections represented by Figures 2, 3 and 4. Using a single-page mechanism for both guides, each section of a guide is indexed from the *Guide page index*. This index, an index into the guide and accessible from the top of the page, provides instantaneous response. Each section ends with a link to this index, which also provides instantaneous navigation back to the index.

Figure 3.   Agenda support point section

Another reason for a single-page guide is that the instructions in each of the two different guides are always available at the top of the page. Whenever instructions are needed, such as being reminded of the tasks to be performed, the instructions are found on the same page. Access to the instructions is instantaneous.

Referring to Figure 2, the Guide page index of three hypertext entries is shown at the top of the page. The horizontally structured index provides instantaneous access to the corresponding section of the guide. At the end of each section is provided a similar index but with one entry 'Index' that returns the user to the index at the top of the page. The chairperson guide contains three sections.

The first section of the guide is the *Meeting guidance instructions*, that indicates to the chairperson the tasks carried out during a meeting. Some instructions are specific to the particular discussion tool used by the group. For instance, the voting instructions in Figure 2, like collect, are the method used for voting in Yarn. Of course, the meeting guide would contain those discussion tool instructions related to the tool in use. Clicking on the second entry link in the Guide page index takes the user to the beginning of the section of agenda support

points (*Support point section*). A portion of the section is shown in Figure 7.2. The section consists of multiple pairs of tables, where each pair contains tables for presenting:

1. attributes for an agenda item— the same format as found in agenda-related pages

2. support point details—containing support points for the item in 1 and their corresponding point numbers

Figure 3 displays two pairs of tables, one pair for item number 3 and its support points, the other for item number 4 and its support points. The latter table is different in background colour from the former table (and the rest of the page). The support points table is white for easy and quick identification of support points during discussion.

In the second of the first pair of tables in Figure 3, there are two points with their corresponding texts in the second column. Point 1, "Raise issue of table layout in minutes email", is a point the chairperson created with regard to review of the last meeting minutes. The chairperson wishes to raise the matter about layout of the table used in minutes email. Therefore, this

point will be used during the meeting to induce relevant discussion about the issue of table layout.

chairperson. It is not required that all points created must be used during discussion. Of course, it is not known in advance

Figure 4.   Agenda support point modification form (Non-edit mode)

The second point the chairperson included was about the colour scheme in the Logan tool. The chairperson would like to request the developer of the tool for an alternative scheme to be implemented. This request will provoke discussion about the alternative scheme suggested and may lead to discussion about other alternative schemes. In this way, the chairperson is inducing discussion about matters in the minutes, therefore leading to outcomes and decisions (and actions).

The second item for which points have been created is 'Benefits of electronic meetings'. This item is where the initiator, Mary Smith, is introducing the advantages of electronic meetings at the request of other participants. A document describing such advantages is included for viewing by participants. Support point 1 indicates that the chairperson is first going to ask if participants have any questions regarding the document, if Mary happens not to ask this. Having already viewed the associated document during this support point creation process, the chairperson wishes to include points asking about the benefits in the document. The second point the chairperson includes is one asking Mary about anonymity. Point 3 is another question, about the process of parallel contributions. The last point is one where, if time permits, the chairperson will refer participants to a document discussing application of meeting tools. A link exists to this document so is viewable easily by participants.

As can be seen, the chairperson is pre-planning for effective discussion of an item. Pre-planning is based on anticipation of relevance and productivity from the knowledge of the

how discussion will turn out (such as the set of issues that will be discussed eventually and the time taken to discuss them). Thus, time may not permit that all pre-empted discussion, in the form of point generation, will ensue.

Yet, it is always worthwhile for the chairperson to generate more points than possibly be usable. As long as the points are relevant, there may be a need for other points of view, suggestions, and so forth. It is safer to include more points than the chairperson believes will be used than for there to be a lack of discussion. The extra points also give freedom to the chairperson to choose from a range of points in inducing discussion. If discussion turns out such that a subset of the chairperson's points is discussed already by other participants, the extra points allow the chairperson to introduce other points not discussed by participants.

Finally, the chairperson may also lack knowledge about an item and therefore have to include very few points or even no points at all. After all, the chairperson is only attempting to promote discussion and is not an expert on matters in all items.

Other advantages of the support point mechanism suggested through experience with Logan include:

- Saving of time and convenience for the chairperson. Certain remarks or portions of remarks are stored as points in the guide before discussion. The points are easily copy-and-pasted during discussion rather than typed in while the remark is being contributed. It was in found experimentation that meeting progress could be sped up if this copy-and-paste technique was used.

It was much more cumbersome to type such text, with errors in typing highly possible, and boredom or

- text field for supply of point text

Agenda support point modification form - *Edit mode*

Edit the point displayed:

```
Mary, regarding the anonymity benefit - does this
really make any difference to meeting output?
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Submit item details   Reset

Figure 5.   Agenda support point modification form (Edit mode)

impatience experienced by other participants while waiting for the remark to be entered.

- Capability of keeping personal notes about items to oneself whilst the meeting progresses. For instance, the chairperson could make note of how productive the discussion of an item was.

It may occur that new items have been accepted into the agenda since the guide was last used. This case is probable because agenda support point creation occurs across much of the pre-meeting phase. Logan meeting guides also handle and reflect this case. Logan checks for any new items in the agenda file absent from the records used by the current version of the guide file. If there are such items, Logan updates its records with details of these items. The current version of the guide is updated with tables for the new items and for their support points. In this way, the guide is continually updated with new items and support points during the pre-meeting phase.

Another situation handled is where there are carried over agenda items from last meeting. These carried over items will have associated agenda support points. Therefore, Logan automatically carries over the support points as well. Considerable effort is taken by the chairperson to generate support points. If items are eventually not discussed during a meeting and have to be carried over to the next meeting, it is inappropriate to expect the chairperson to re-generate the points for these items.

The final section of the guide, the Agenda support point modification form, is shown in Figure 4. The guide can be in either Edit or Non-edit mode (being in the latter mode in Figure 4). The form consists of:

- brief instructions on how to use the form

- item support point operation selection

- item number and point selection

Therefore, the chairperson adjusts one point in the guide by selecting the appropriate operation, selecting the item number, selecting a point number (if required) and supplying text for a point (if required). Points are therefore operated upon one-by-one.

Item support point operations include:

1. adding a point as the next point in the item

2. adding a point as a specified point number

3. editing a point

4. deleting a point

As was shown in Figure 3, an item has a set of support points, with each point having its own number. The set has some final point and therefore a final point number. Adding a point as the next point simply means that the point about to be added is next in sequence after the final point. Therefore, the number of the point to add will be one increment from the number of the final point. This option is selected simply by checking the "Add as next point" radio button.

Adding a point as a specified point number allows the chairperson the freedom to choose a point number. This capability means that the chairperson does not have to add the point after the final point and accept the next point number. A field is supplied where the point number is entered. The operations of editing or deletion of any point previously added are also provided.

The next part of the form is the set of one or more tables from which the chairperson selects an item number, and if necessary, a point number. Beneath the cell of an item number is the item's corresponding list of points. The points are presented in the form of a menu. If no points exist for an item, the text "None" is displayed instead of a menu.

Once an item number is selected by checking its radio button, the chairperson pulls down the corresponding menu and

selects the relevant point number. Only in the cases of edition and deletion does a point number have to be selected. Logan knows that the point number appearing as selected is relevant in edition and deletion, and ignored in addition. The tables are generated automatically by Logan. Logan knows which items have points and which numbers are assigned to these points. From this information, Logan determines how to generate the tables and their cell elements of text, radio buttons and menus. Location of an item is very easy in this left-to-right fashion.

selected, and these details are submitted. However, the difference with the edit operation is that a guide page in Edit mode is loaded. Such a page is shown in Figure 5.

No difference in content exists between the guide in each of these modes occurs except in the point modification form, that is, the Meeting guide index and support point section are exactly as shown before. A change in the title of the form occurs with "*Edit mode*" instead of "*Non-edit mode*". The agenda support point operation buttons and field, and item and point

[Meeting instructions | Meeting status | Meeting postponement | Standard reminders | Current meeting reminders | Reminders modification form | Agenda support | Support point modification form]

Meeting guidance instructions

The secretarius is responsible for performing the following activities during a meeting.

Time of occurrence in meeting	Task	Instruction
Beginning	Opening meeting	To open the channel for the meeting, information is supplied in the following order: e.g., for channel "Research" with password "abc", secretarius James, Enter Channel Number, New Name or hit return to quit: Research Join channel "Research" (y/n): y Enter User Name: James Enter Session Password (blank to ignore): abc
	Reminders to participants	Copy-and-paste reminders from meeting guide to first remark in meeting.
During	Item *Apologies*	Mention group members absent from meeting (if any), e.g., "Mary Smith absent,"
	Item *New agenda items*	View agenda development page to check if new contributions. If there are, moderate as normal.
	Item *Matters arising from minutes of last meeting*	Report status of actions of last meeting.
	Agenda support points	Copy-and-paste points during discussion where relevant. Remember to include support point lines gradually for easier reading by participants.
	Summary points	During item discussion, create and add summary points to meeting guide for later use in summary.
End	Summary	Copy-and-paste summary points in meeting guide in format: Itm <item number> - <summary point 1> <summary point 2> | | |
	Channel closure	Use: closechan or simply exit from Yarn.

Figure 6.   Guide page index and instructions section of Secretarius meeting guide

The final element is a text field where a point is either:

- entered—for addition
- modified—for editing

In the case of deletion, no presentation of text in this field is at all required.

1)   Operations and Guide Mode

When the guide is selected by the chairperson, the guide is in Non-edit mode (the default mode). In this mode, the chairperson is capable of adding or deleting a point. When the details regarding operation, item number, point number and point text are supplied and submitted, the operation is carried out and the new page loaded is in Non-edit mode. When the chairperson wishes to edit a point in this mode, the "Edit" radio button is checked, the desired item and point numbers are

number tables are absent. A different label for the text field, specifically for Edit mode, "Edit the point displayed:", is shown. The field is automatically loaded with the point text for the point selected for editing. Figure 5 shows the text for point 2 in item 4 shown in Figure 3. The editing of the point the chairperson carried out was to amend the word "any" in the text to "a". Submission of this point will update the point with the new text. Once the point is submitted, the guide returns to Non-edit mode with a new page loaded for this mode (as in Figure 4). The new version of the point is viewable in the support point section. The chairperson may then choose to add, delete or request to edit any point as shown in Figure 4.

Edit mode is a form of locking where the only allowable operation in the guide is editing of a support point. The chairperson requests to edit a point from Non-edit mode and the new page loaded is in Edit mode. Thus, it is not possible to

confuse Logan by requesting editing of a point and then performing one of the other operations. This mechanism is achieved by the absence of elements for operation, item number and point number selection. Even if the chairperson experienced a change of mind where the point was not to be edited, there is no difficulty created by this situation. The chairperson can simply submit the point without any editing, the point will be unaffected and the guide will return to Non-edit mode.

B. Secretarius Meeting Guide

The meeting guide used by the secretarius is shown in sections in Figures 6, 7, 8, 9 and 10. The secretarius' guide is similar to the chairperson's guide. The sections in the chairperson's guide also found in the secretarius' guide but with difference in content are:

- Guide page index—because of extra sections in the secretarius' meeting guide, a longer index applies

Meeting status

⊙ Future ○ Start ○ End   [Adjust status]

Meeting postponement

[Abnormal termination]

Standard reminders

Reminder number	Reminder
1	Remember that when the meeting is opened it will become a meeting in progress. Logan is adjusted.
2	Keep eyes on Yarn.
3	Keep remark line lengths same as dashed lines.
4	Reload Logan pages whenever a change to them is known.

[Top index] [Rems Mod. form]

Current meeting reminders

Reminder number	Reminder
1	Only one pt needs to answer "yes" or "no" rather than all answer.

[Top index] [Rems Mod. form]

Figure 7.   Sections for meeting adjustment and reminder indication

- Meeting guidance instructions—due to different instructions for the secretarius

- support point section—points also include summary points

- point modification form—an option to specify a point as a summary point.

The extra sections in the secretarius' meeting guide are:

- Meeting status

- Meeting postponement

- Standard reminders

- Current reminders

- Reminder modification form

Each section is covered such that similarities in sections in both guides will not need repetition. Because the secretarius' guide is more powerful than that of the chairperson's guide, an

overall picture of the usage of the secretarius' guide will aid in understanding the guide.

Naturally, the instructions of tasks to be performed are always available at the top of the page. The first task the secretarius will carry out in the meeting is to display reminders to participants. The reminders the secretarius created during the pre-meeting phase are taken from near the top of the guide (the form for adjusting the reminders is located just below the reminders). Sometime after displaying reminders, the secretarius will change the status of the meeting. The meeting will be adjusted from a Future meeting to one that has commenced (denoted by Start), that is, a meeting in progress. Hence, the *Meeting status* section is at the top. If the meeting is to be abnormally terminated, then the section for termination is found immediately below. Once the meeting is in progress, the agenda and its support points (occupying the bulk of the guide) are referred to. Finally, a form interface is provided at the bottom of the page for adding, deleting and requesting to edit support points.

The Guide page index is shown in Figure 6. The index occupies two lines, yet even if sensible abbreviations were used in entry names, the index would still require two lines. Thus, entry names have been kept in full. The table for Meeting

guidance instructions contains instructions specifically for the secretarius.

The next set of sections is shown in Figure 7. In the *Meeting status* section, the secretarius checks the appropriate button to change the meeting status and then depresses the "Adjust status" button to achieve the change. The button checked by default is the "Future" radio button. This is because ever since the meeting was created and the discussion has not started, the meeting is a future meeting. The Start button is selected at the boundary between startup and discussion phases. The End button is selected at the boundary between discussion and windup phases. As shown in Figure 7, the meeting in which this guide was used is a past meeting.

The *Meeting postponement* section is composed of a single button. This button is pressed when the meeting is terminated abnormally, due to a difficulty such as a tool failure or network problem. Abnormal termination has the effect of sending out a meeting postponement email.

There is a need for reminders to be used before discussion commences. Participants, especially novices in using the tools, could not be expected to recall several aspects of using the tools quickly. Thus, reminders are an effective method for reminding participants of these details. Reminders are

Figure 8. Reminder modification form

displayed during the startup phase before such aspects became crucial during the meeting.

The *Standard reminders* section is composed of a two-column table of reminders used during the startup phase. Such reminders are copy-and-pasted from the table to the first remark of discussion in the discussion tool. These reminders are referred to as standard because they are needed during every meeting. Standard reminders may still be adjusted when a new meeting is created, however. They are reminders that the secretarius does not have to re-specify every time a new meeting is initiated. These reminders are automatically carried over for use in the following meeting.

An example of a standard reminder is the first reminder in the table. This reminder indicates that the meeting is in progress when opened. It is beneficial to remind participants of the change in meeting status and the effect of the change on Logan in every meeting. However, it is up to the secretarius to copy the reminder into meeting discussion—if the secretarius decides a reminder is no longer necessary, the reminder can be excluded from the remark for reminders. Such flexibility is allowed for the secretarius in providing reminders. The secretarius can then remove the reminder from the table next

meeting so that it will no longer be carried on from one meeting to another.

Current meeting reminders are specific to the meeting for which the guide is to be used. Some reminders vary according to the meeting situation, and so a set of reminders separate from standard ones is necessary. These are new reminders for use in a newly-created meeting. Both standard and current reminders sections have links, "Rems Mod. Form", to the form where the reminders are added, edited and deleted (described next).

The *Reminder modification form*, shown in Figure 8, is used to add, edit or delete one reminder associated with the meeting. This form is used for operations on both standard and current meeting reminders. The Reminder modification form is similar in style and mechanism to the point modification form presented earlier. The Reminder modification form is also based on the same Edit/Non-edit mode mechanism. The form consists of brief instructions in using the form, and fields for:

1. reminder type and number selection

2. operation selection

3. reminder text supply

Agenda item					
Item number	**Item**		**Time**	**Initiator**	**Documents**
4	Benefits of electronic meetings		10	Mary Smith	Benefits

Agenda item support points	
Point number	**Point**
1	Ask participants if they have any questions about the benefits.
2	Mary, regarding the anonymity benefit - does this really make any difference to meeting output?
3	Concerning parallel contribs - doesn't this cause overload for participants to absorb?
4	If time, mention Application of meeting tools document.
5	*Summ*: Mary explains how anonymity evokes responses normally not made due to awareness of participant making a response.
6	*Summ*: "Application of meeting tools" read by participants and this document clarified the ideas participants had about tools.

Figure 9.   Agenda support point section – with summary points

4.   reminder details submission and form clearance

2.   perform any operation on a support point

Figure 10.   Agenda support point modification form (Non-edit mode)

The type of reminder to which the operation applies is selected in the Reminder component shown in Figure 8. The secretarius selects the reminder number from the corresponding pull-down menu.

A reminder may be:

- added as the next in a set of reminders

- added as a specified reminder number

- edited

- deleted from a set of reminders

Because an agenda item and its set of support points are the same conceptually as a reminder type and its set of reminders, operations on support points map to operations on reminders. The method of editing reminders is the same as that of editing support points, except for one difference. The secretarius' guide also has a point modification form located at the bottom of the page. The difference here is that when the page is in Edit mode, the point modification form becomes absent from the page. This absence allows the secretarius to continue to view instructions, reminders and agenda support points if necessary. Yet, the absence of the point modification form prevents the secretarius from the possibility of performing an operation on a support point accidentally while a reminder is being edited. This mechanism is also applied in editing of a support point, but is the converse of this mechanism (explained later in describing secretarius' agenda support point modification). Therefore, locking in Edit mode for a reminder prevents attempts to either:

1.   perform an operation other than editing on a reminder, or

The secretarius submits the edited text and the page returns to Non-edit mode. In Non-edit mode, all forms are presented as the default and the remaining sections of the guide are viewable as normal. Finally, at the bottom of the Reminder modification form, there are links taking the secretarius back to the Guide page index and reminder sections.

A portion of the support point section in the secretarius' guide is shown in Figure 9. It is similar to the set of points shown for agenda item number 4 in the example in Figure 3. Assuming, for the purpose of illustration only, points 1 to 5 in the chairperson' s guide were instead found in the secretarius' guide. Two summary points are included as points 6 and 7. During discussion of the item or at the beginning of discussion of the following item (item number 5), the secretarius has submitted these summary points via the guide. An added feature of the secretarius' guide is that a point can be indicated as a summary point with the label, 'Summ:' automatically prepended to the point. The mechanism for this label addition is explained next.

The final section of the guide is the point modification form shown in Figure 10. The content, layout and mechanism of the form are exactly as those in the point modification form in Figure 4, except for one difference. The secretarius' point modification form also includes an option to specify that a point is a summary point. To enable this specification, a "Summary" label is located at the right of the point text field and is preceded by a checkbox. If an add operation is carried out, the point submitted is added to the appropriate item's set of points (in the support point section) as a summary point. If an edit operation is being carried out, the point is modified according to the secretarius' change, and the point is re-labelled

in its exact same place in the support point section as a summary point.

Summary points can be located in any place in a set of points, but most usually the secretarius will add summary points to the end of the set. The end of the set is naturally where the secretarius would expect to find summary points when performing the windup summary. All support points for use in the meeting are created pre-meeting, and summary points created during discussion follow them. This arrangement entails that the secretarius mainly uses the "Add as next point" operation. In the case of an edit or delete operation in Non-edit mode, the checkbox is irrelevant and therefore checking it has no effect.

IV.   CONCLUSION

This paper has presented a unique method of guidance and direction of electronic meetings using chairperson and secretarius meeting guides. The guides assist the meeting in terms of agenda support points and provide support in the form of meeting reminders, instructions for the chairperson and secretarius and allow creation of summary points for the secretarius.

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