Applying Genre Analysis to EMS Design: The Example of a Small Accounting Firm

Pedro Antunes
University of Lisboa, Portugal
paa@di.fct.ul.pt

Carlos J. Costa, João Ferreira Dias
ISCTE, Lisboa, Portugal
cjc@iscte.pt

Abstract

The concept of genre has already been used to analyse organizational communication. It has also been recently used to examine persistent conversations and patterns of thinking. It may there be an opportunity to apply the genre perspective to Electronic Meeting Systems (EMS) as well.

This paper describes how we analysed meetings using the concept of communication genre and draws several consequences for EMS design. Some of the identified design issues are: (1) the EMS could reflect the organizational orientation towards producing value; (2) EMS may consider the situated nature of work; (3) EMS could support long-term usage; (4) Genres could be incorporated in genre-based EMS to identify decision-making patterns; and (5) Genres shape communication artefacts, accommodating different views and reflecting the genre system that originates them.

The paper describes an EMS, based on genres, that we developed to address these design issues. The EMS was developed and used in the context of a small accounting firm. Preliminary results show that the approach contributes to a better fit to organisational needs than traditional EMS.

1. INTRODUCTION

The concept of genre (a French term meaning type) had its genesis in literature. In that context, a literature genre considers a category of literary works that, having the same fundamental purpose, will present a similar structure and will obey to similar conventions. Its systematic study started with Plato, in the Republic, and Aristotle, in the Poetic, that sought to typify literary works according to their common characteristics.

For centuries, this concept served as a practical way to organise and index literary works, as well as a way of entailing rules to literary creation. An amusing example of the later case is the crime and mystery genre, where it is always assumed that the murderer must be someone we know from the beginning. Of course, defining such conventions in creative work originated so much strong oppositions as staunch defenders (see a discussion on this subject in [16]).

The concept passed then to other areas of artistic creation, such as movies and television series, and scientific creation, for which the scientific journal is a very significant example.

More recently, it was applied to computer applications to identify certain types of technologies or different experiences that users may have with the technology [16].

Genres have also been applied to the study of computer-based organisational communication [25], a case that we will discuss in more detail.

Genres of organisational communication are socially recognised types of communicative actions that are habitually enacted by members of a community to perform particular social purposes [25]. Their distinguishing aspect – and motivation to analyse them – seems to rely on the ability to highlight the particular combination of technical, social and institutional forces entailing organizational work [9].

Linked to the concept of genre, come forward concepts like repertoire of genres and genre systems. In fact, the set of genres routinely enacted by an organization makes what can be called a repertoire of genres. On the other hand, a genre system is a complex web of interrelated genres, enacted and moved by a community of people doing recognisable actions [2][16].

Organisational communication genres already proved to be useful in the analysis of organisational communication [17][25]. In fact, the approach was used in different organisational areas with the purpose of diagnosing technical problems; for instance, concerning information systems design [13] and groupware usage [18].

Although the emphasis has been put in analysis, genres also play an important role in the design or redesign of communication artefacts [22], media [1] and distributed applications [20].

Another example illustrating the power of genres as an instrument for analysis concerns the theoretical debate, which is central to the Computer Supported Cooperative Work (CSCW) community, between plans and situated actions [21][24][8][7]. Very briefly, the debate places on one side the notion that

communication is also a commitment to act from where we may derive regulated flows of information in organisations [23]. Workflow systems are seen as a way of automating these regulated flows.

On the other side, there is the perspective that work has a situated nature and, thus, should not be subject to regulation, a consideration that strongly influences systems design towards harnessing peoples' awareness and skills.

Besides the debate, what should be noted is that genre systems represent a compromising way of automating recurrent communication patterns while preserving the situated nature of the group of people using the genre system [13].

In summary, the notions of genre and genre system seem to be a powerful instrument for analysing situations where a community of people performs particular social purposes, doing recognisable acts subject to technical, social and organisational forces.

Clearly, such a definition embraces electronic meetings.

Communication is a fundamental component of meetings. Participation in meetings is informally regulated by assumed roles and actions. Meeting participants mostly belong to the same community and have a definite purpose [19]. Electronic meeting participants are also subject to many known technical, social and organisational forces [10][15].

The major goal of this paper is to apply the genre concept to the analysis of electronic meetings.

In order to accomplish this objective, we distinguish two different levels of analysis: the micro-level and the macro-level [13]. At the micro-level, we are concerned with the meeting structure and internal communication patterns. At the macro-level, we regard the meeting system as one single component of a web of many other components that coexist in the organisation and must communicate and coordinate each other to accomplish work.

Then, we illustrate how genres influenced the design and development of an EMS. In fact, the approach has consequences to the whole EMS architecture. Preliminary results show that the approach contributes to a better fit to organisational needs than traditional EMS.

2. USING GENRES TO DESCRIBE MEETINGS

The first time we have seen a connection between genres and meetings was in [18]. In fact, the connection was a ternary one, since it also considered groupware support. The mentioned work analysed how teams used a particular groupware technology (built over Lotus Notes) to accomplish their missions and come to the conclusion that three genre systems were used: the meeting genre system, the collaborative repository genre system, and the collaborative authoring genre system.

The meeting genre system included the following genres: logistics, agenda, the meeting itself, and the meeting minutes. One interesting conclusion drawn by [18] is that the meeting genre system is clearly rooted in norms established in the paper-based world and transferred into electronic media.

[13] also offers an interesting connection between genres and meetings. Although the cited work does not specifically address meetings, they are mentioned briefly as one microscopic form of communication used by organizations to structure and accomplish work. Other forms include telephone calls, planning sessions, sales talks and even corridor conversations, which build up what is designated "organization as talk."

This perspective is complemented by another one designated "organization as text," which covers all kinds of meaning produced by organisations to accomplish work. Once again, meetings, telephone calls, etc., are examples given as part of the organizational text. According to [13], the former perspective focuses more on action and the latter on structure.

Another interesting aspect of that work is the separation between organizational macro-level and micro-level structures. Such perspective is a recurrent one in organizational literature (e.g. [14]) and, in our view, affords regarding meetings at two different levels. One level considers meetings as genre systems, in line with the observations from [18]. Another level regards meetings as a genre (or repertoire of genres) that exists as part of a much broader organisational genre system.

Thus, integrating these perspectives, we may regard meetings as:

- An **organizational communication genre**, which is part of the organizational repertoire of genres and genre system.
- Instances from a **repertoire of meeting genres** enacted by the organization to accomplish specialized and recurrent types of meetings, such as brainstorming, creating consensus, disseminating information, planning, etc.
- **Meeting genre systems** expressing some recurrent meeting structures. At the upper level we may have a generic meeting genre system consisting of logistic-agenda-meeting-report. But this generic meeting genre system may be specialised in several ways, originating **repertoires of meeting genre systems**. In this paper we will adopt the generic logistic-agenda-meeting-report system with a slight change. We will add a context genre to classify any further

information that may explain or even constrain the meeting (e.g. specific types of documents delivered to meeting participants).

- Further **decompositions of meeting genres**. For instance, the logistics genre may be further decomposed in a genre system composed by: meeting proposal, meeting invitation and meeting acceptance. These decompositions allow characterising specific meeting genre systems, although the approach is limited by the requirement that genres must be socially recognized.

Taking a genre perspective also requires looking at the genre life cycle. In fact we should consider that meeting genres go through a process of creation, choice and use.

1) Creation of meeting genres

The genre creation is a social process that may take a long time. It may start with an appropriation of a genre used by a different community or with a modification of an existing genre. Nevertheless, according to [6], because the definition of genre relies on social acceptance, there is some time mediating the occurrence of some particular form of communication and its acceptance as a genre.

Thus, some care should be taken to avoid considering as meeting genres any kind of communications that are not yet fully accepted by the community. [4] designates such incomplete communication forms as pre-genres.

2) Choice of a meeting genre

The choice of a meeting genre depends on the recurrent situation. Typically, a genre is part of a genre system and the system limits that choice. [26] describes the process of choice this way: the participants in a genre system start by observing some genre being used and identify a recurrent situation, which influences them to select some particular genre.

3) Using meeting genres

As noticed by [1], any kind of life involves the routine use of several genres. For example, tourism involves guidebooks, restaurant menus, street signs, timetables, roadmaps, phrase books, photos and postcard notes back home.

The use of a genre consists in the production and distribution of an artefact (e.g. book, software or leaflet) that is able to materialize the genre. In opposition to literature genres, where there is a clear differentiation between producers (e.g. novel writer) and consumers (novel reader) of artefacts (books), which materialize genres (novel), in the organisational
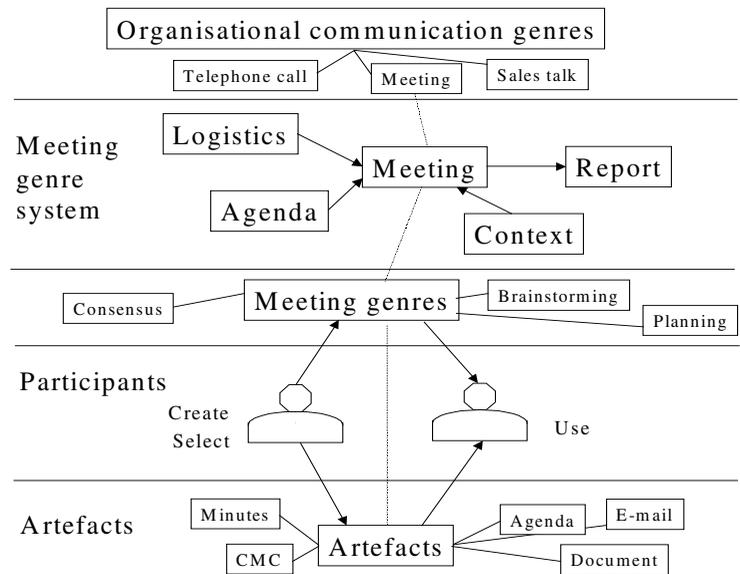

Figure 1 – General perspective

context everybody may be producer and consumer of many different artefacts.

Meetings may as well be viewed as having a set of artefacts that materialize meeting genres. For instance, there is the agenda on the flip chart, decisions on the whiteboard, participant notes and meeting minutes.

One interesting kind of artefact to consider is the synchronous Computer Mediated Communication (CMC) system, which supports text-based instead of face-to-face conversations in meetings. Genre analysis has been used in that context to analyse and classify conversations over long periods of time (e.g. [9]) but may as well be used to analyse electronic meeting discussions.

The general perspective of meetings based on genres and genre systems is given in Figure 1.

3. CONSEQUENCES FOR EMS DESIGN

EMS have been characterized as a combination of tools allowing users to communicate, deliberate and manage common information in a concerted group effort [15]. Basically, this is a functional view of the EMS.

A much more complex view was originally proposed by [12] to analyse the impact of the technology on groups. According to this framework, an EMS enhances group capabilities, removes barriers to group interaction, improves the group in its task and builds the social value of the group through successful task performance.

Another approach to characterize EMS, afforded by the genre view, is to identify which kinds of virtual entities emerge from EMS, affecting the network of individuals and groups [16]. Any of these virtual entities can be further characterized as contributing to the organization with:

- An intangible value – The contribution of EMS to organizational objectives, such as building group abilities, making decisions, planning, etc. For instance, an extensive study of meetings done by [19] shows that 66% of meetings are intended to reconcile conflicts, reach group judgements or decisions and solve problems.

- A tangible value – Physical testimonials that report and preserve the intangible things that have been constructed during meetings. Examples are meeting minutes, action plans or meeting transcripts.

Now, we will make a comparison between the genre view and the other views[1]:

1) Organizational orientation

Meeting genre systems reflect an organizational perspective, aimed at producing tangible and intangible value. The EMS could explicitly support the organizational orientation towards producing value, in addition to the support to group processes and tasks. One particular instance of this problem is that we have not yet seen the integration of EMS with workflow systems now common in many organizations.

2) Situated nature

Meeting genres and repertoires of genres reflect recurrent patters of work that could be used to design more situated EMS, rather than generic-purpose ones.

3) Lifecycle view

One aspect highlighted by genres is that the production life cycle is complex, reflecting social processes of creation, choice and usage. Thus, EMS must accommodate long-term usage, rather than focussing on single tasks or single decision processes.

4) Decision-making patterns

Since genre repertoires can also be applied to one particular component of the meeting genre system – the meeting – this creates an opportunity to identify and categorize more fine-grained decision-making patterns such as, for instance, ThinkLets [5]. Such repertoires could then be easily incorporated in genre-
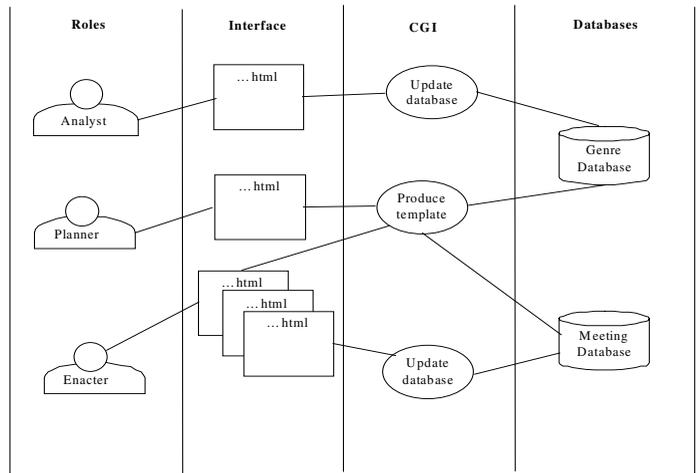
---

[1] Our view over EMS emerged from the analysis and use of the following commercial systems: GroupSystems, Meeting Works, Expert Choice, Decision Explorer and Group Explorer.

Figure 2– Architectural elements

based EMS, not to force structure but to increase support.

5) Communication artefacts

Genres and communication artefacts are inseparable and pose mutual constraints. Simple transcripts of the information acquired and managed by the EMS may not produce intangible value, even if post-produced by a human reporter, since digital replicas of printed reports are difficult to consume as talk within the organisation. The communication artefacts must be malleable to accommodate different views and adjusted to specific targets (a process, department, agent or system). It may also be necessary to use multimedia and hypermedia features in order to deal with size and focus the recipients on valuable information. The communication artefacts must also be open and thus reflect the genre system that originated them, rather than opaque, with elements such as agenda items, decisions and future actions but no contextual cues or explaining factors.

In order to apply some of the observations drawn above, we decided to develop an EMS based on the concept of communication genre and genre system.

4. SYSTEM IMPLEMENTATION

This section describes an EMS that supports meeting genres. Basically, the prototype main purpose is proof of concept, rather than full functionality. It was implemented using the Web infrastructure (HTML, Javascript and Perl CGIs).

The prototype supports the following processes:

1) Meeting analysis

This process is related to the genre creation phase in the genre life cycle. The prototype supports the definition of a repertoire of meeting genres. It also supports the definition of a repertoire of genre systems by specialization of the meeting genre system

defined by [17]: logistics-agenda-meeting-report (plus context).

2) Meeting planning

This process corresponds broadly to the choice of communication genre in the genre life cycle. The prototype supports the selection of a particular meeting genre and genre system to apply in a particular circumstance.

3) Meeting enactment

This process corresponds to the genre usage phase in the genre life cycle. The prototype is able to produce a collection of artefacts that enact the genres specified with the previous processes. The prototype also creates a common view of the logistics-agenda-context-meeting-report genres, thus giving a genre system perspective to users. The prototype does not enforce any temporal (e.g. agenda before meeting) or causal relations (e.g. meeting generates report).

Figure 2 presents the prototype architectural elements, which include roles, interfaces, CGIs and databases.

Roles comprehend specific actions that may be exerted by the members of the community (currently one single community is supported). For each role there is a corresponding user interface, implemented by an HTML Web page. The analyst may define the repertoire of meeting genres as well as genre systems (specialization and decomposition). These repertoires are stored in a genre database using CGI scripts. CGI scripts are coded in Perl and access the database using SQL.

The planner may choose meeting genres from the repertoire. This process of choice produces a meeting template, i.e. a detailed description of a future meeting, consisting of specific logistic, agenda, context, meeting and report, with particular purposes and forms. These templates are stored in a meeting database, which collects multiple templates from different meetings.

Finally, the participants may create instances of templates and interact with them. The instantiation of a template produces one or more HTML pages with HTML forms. The text introduced in these forms is stored in the meeting database.
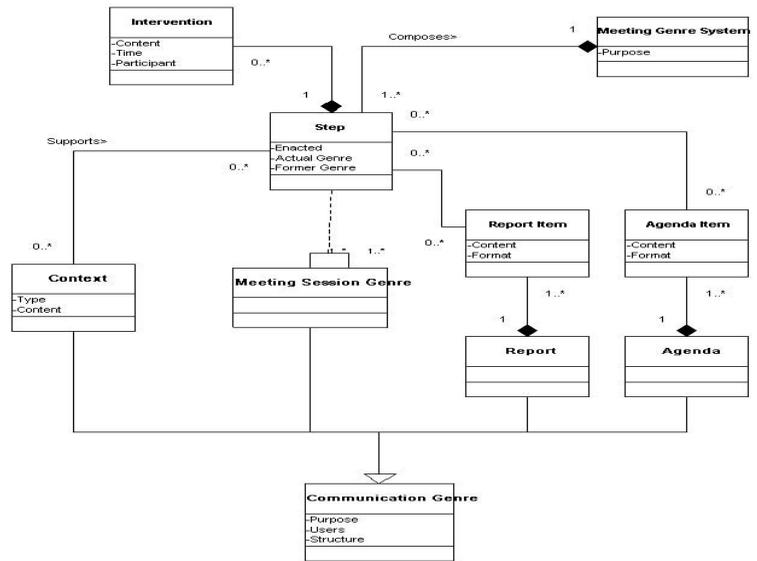

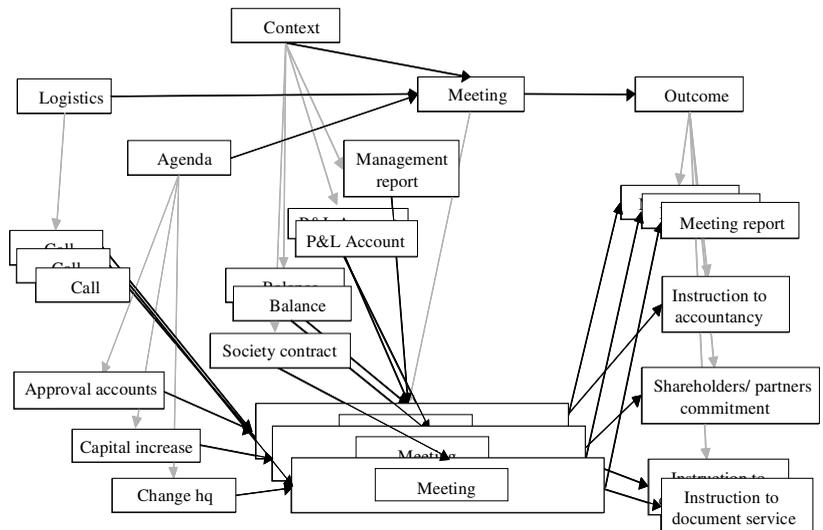Figure 3 - UML Class Diagram for the genre database

Figure 4 – Repertoire of genres

Note that the community of users may participate in the analysis, planning and enactment of genres. All information concerning genres, specializations, decompositions and templates is fully available to support future usage and change.

In Figure 3 we show the UML class diagram of the genre database.

Some additional words must be said about using genres. As we have previously discussed, the use of a genre consists in the production and distribution of an artefact that materializes the genre. In our prototype, we must create an HTML page for each genre specified in the system. Each genre specialization or decomposition requires additional HTML pages. The

prototype just manages the repertoires of genres and links between genres and templates. Then, users may create the templates and distribute them to other users. The prototype also delivers HTML pages to users using e-mail.

In the next section we illustrate the overall usage of the prototype in the context of a small accounting firm.

5. EXAMPLE

The EMS prototype previously described was used in a small accounting firm, with the purpose to support Annual General Meetings and Extraordinary General Meetings. In this context, we had several interactions with a number of members of the firm to produce the repertoire of genres and genre systems presented in Figure 4. The repertoire was obtained by having several electronic meetings with the firm accountants, and also by consulting legislation that rules this kind of firms.

The above genre and genre system were uploaded into the prototype genre database. Furthermore, we designed HTML artefacts to support the purpose and form of genre decompositions. Figure 5 shows the agenda artefact.

In Figure 6 we show a more complex artefact, the one implementing the meeting genre. This artefact integrates a chat tool (a Java class publicly available) in order to allow remote participants to discuss over the Internet. Finally, Figure 7 shows the artefact implementing the meeting report.

6. PRELIMINARY RESULTS

At this moment, a formal evaluation of the prototype was not performed yet. Nevertheless, several members of the accounting firm cited in the previous section used the system. From them, we could obtain some observations.

It was found that the performance of the server and databases employed by the prototype were modest, making the meeting process slow and affecting the interaction between participants.

The participants liked the agenda artefact, allowing everybody to follow the discussion and avoiding spending much time in accessory subjects. The accountants also considered the meeting reports more clear, compared to the traditional paper version, since additional information was being delivered in context.

We were also able to compare our prototype with a commercial EMS already used by some members of

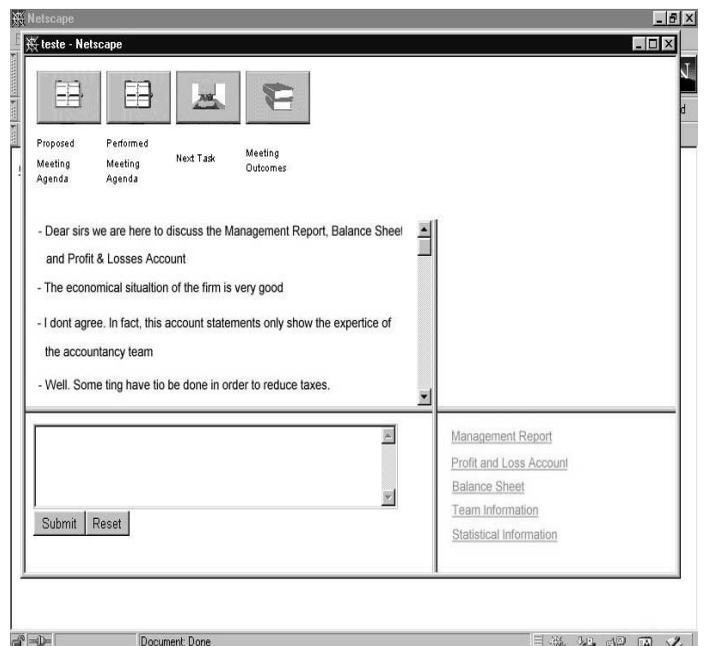Figure 5 – Artefact implementing the agenda genre

Figure 6 – Artefact implementing the meeting genre

the accounting firm. They found out that the prototype was more adjusted to the specific situation at hand but less flexible.

The production of the repertoire of genres is a process that takes some time and apparently was not completed.

This system also allowed collecting more structured information about the meeting than habitually. In comparison to the traditional EMS, it was noticed that the results are much more integrated, and that there is more significant information about the meeting. For example, the integration between context information and each item in the meeting is more explicit. The system also produced less

redundant data, such as jokes and other unproductive and sometimes inappropriate comments.

Some documents, like Management Reports, Balance Sheets and Profit and Loss Accounts, typically do not have a structure adequate to be seen in a Web page. So, an important preliminary work had to be done with the users in order to adjust those reports to the Web environment.

The kind of technology used was considered an advantage, because it allowed accommodating little changes proposed by the accountants and their clients. Most proposed changes dealt with the user interface and contributed to ease the acquaintance to the system. Unfortunately, the participants complained about different screen resolutions, due to some outdated computers, which interfered with the level of participation.

The possibility of scanning the meeting report through the Internet was perceived as a notable advantage. In fact, especially for the accountants, the system allows to scan data from several clients at the same time and at different places. Obviously, confidentially and ethics became the limit for those surveys.

From this very preliminary evaluation we could obtain a set of system properties that seem to be of most importance to the users: performance, flexibility, perception of fitness to the activity, user interface, ease of understanding the system and distributed access.

7. CONCLUSION

This paper draws from the concept of genre, which has been successfully applied to the context of organizational communication and, more interestingly, to the context of computer-based communication. Others have previously established a connection between genres, organizations and meetings, something that is very reasonable, considering that meetings are regarded by organizations as one important form of communication (accounting on frequency and time spent in meetings). According to this view, meetings are both an organizational communication genre and a genre system.

We integrated the previous notions with genre specialization and decomposition, defining a more comprehensive view over meetings. Furthermore, we also took a life cycle perspective in order to characterize some other relevant aspects, such as creation, choice and usage of meeting genres.
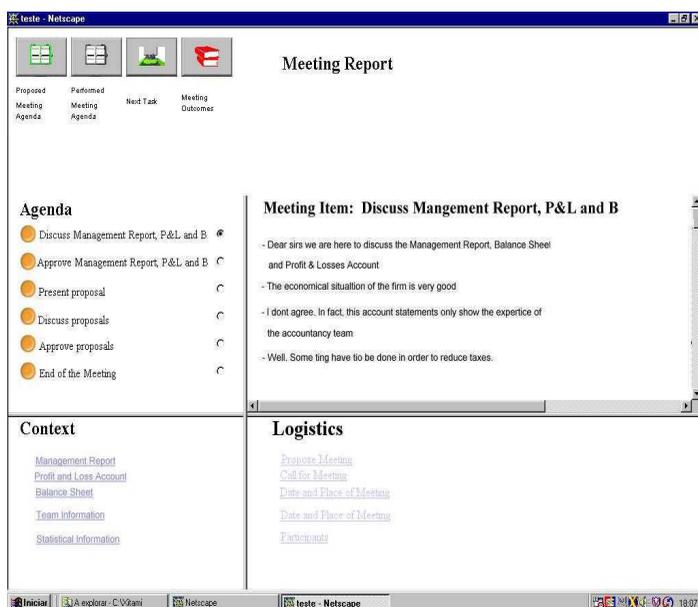

Figure 7 – Artefact implementing the report genre

Then, we identified several consequences to EMS design. In particular, the approach highlights a need for better integration with organisational goals, more situated support to meetings, identification of decision-making patterns, and better support to communication artefacts, including improved multimedia and hypermedia features, accommodation of multiple views, and reflection over the genre system behind artefacts.

In order to deal with these problems, we developed an EMS based on the concept of genres.

The developed prototype supports: (1) the definition of a repertoire of meeting genres and meeting genre systems; (2) planning meeting sessions by choosing specific genres and genre systems; and (3) the use of genres in meetings.

The prototype was implemented and used according to the specific needs of a small accounting firm. The preliminary and informal evaluation of the community of users revealed that the prototype is more adjusted to specific situations, but less flexible than other EMS tested by the same organisation.

ACKNOWLEDMENTS

REFERENCES

[1] Agre, P.; 1998; "Designing genres for new media: Social, economic, and political contexts"; in S. Jones (ed); *CyberSociety 2.0: revisiting CMC and community*; Sage.

[2] Bazerman, C.; 1995; "Systems of genres and the enactment of social intentions"; in A. Freedman & P.

Medway (eds.); *Genre and the new rhetoric; London*; Taylor and Francis.

[3] Bhatia, V.; 1993; *Analyzing genre: language use in professional settings*; London; Longman.

[4] Bregman, A.; Haythornthwaite, C.; 2001; "Radicals of Presentation in Persistent Conversation"; Proceedings of the 34th Hawaii International Conference on Systems Sciences. Maui; HI.

[5] Briggs, R.; de Vreede, G.; Nunamaker, J.& Tobey, D.; 2001; "Thinklets: Achieving Predictable Repeatable Patterns of Group Interaction with Group Support Systems"; *Thirtieth Forth Hawaii International Conference on Systems Science* (HICSS–34); Maui; HI.

[6] Crowston K.& Williams, M.; 1997; "Reproduced and emergent genres of communication on the World-Wide Web"; *Thirtieth Hawaii International Conference on Systems Science* (HICSS–30); Maui; HI.

[7] De Michelis, G.; 1994; "Situating conversations within the language/action perspective: The milan conversation model"; *ACM Conference on Computer Supported Cooperative Work CSCW '94*; Chapel Hill; North Carolina, October 1994; ACM.

[8] Dietz J.& Widdershoven, G.; 1991; "Speech acts or communicative action?"; *Proceedings of the Second European Conference on Computer Supported Cooperative Work - ECSCW '91*; Amsterdam; September; pp. 235-248.

[9] Erickson, T.; 2000; "Making Sense of Computer Mediated Communication (CMC): Conversations As Genres, CMC Systems As Genre Ecologies"; *Thirtieth Third Hawaii International Conference on Systems Science* (HICSS–33); Maui; HI.

[10] Fjermestad, J.; Hiltz, S.; 1999; "An assessment of group support systems experimental research: Methodology and results"; *Journal of Management Information Systems*; 15(3); pp. 7-149.

[11] Flores, F.; Graves, M.; Hartfield, B.& Winograd, T.; 1988; "Computer systems and the design of organizational interaction"; *ACM Transactions on Office Information Systems*; 6(2); pp. 153-172.

[12] Kraemer, K.; Pinsonneault, A.; 1990; "technology and Groups: Assessment of the Empirical Research"; *Intellectual Teamwork*; Lawrence Erlbaum.

[13] Ljungberg, J.; 1997; "Organizations and Conversation"; *Proceedings of IRIS 20*; Hankø; Norway.

[14] Mintzberg, H.; 1979; *The Structuring of Organizations*; Prentice-Hall.

[15] Nunamaker, J.; Briggs, R.; Mittleman, D.; Vogel, D.& Balthazard, P.; 1997; "Lessons from a Dozen Years of Group Support Systems Research: A Discussion of Lab and Field Findings"; *Journal of Management Information Systems*; Winter 1996-97; 13(3).

[16] Oravec, J.; 1996; "Virtual Individuals, Virtual Groups: Human Dimensions of Groupware and Computer Networking"; Cambridge University Press.

[17] Orlikowski, W.& Yates, J.; 1994; "Genre repertoire: the structuring of communicative practice in organizations"; *Administrative Science Quarterly*; 39; pp. 547-574.

[18] Orlikowski, W.& Yates, J.; 1998; "Genre systems: structuring Interaction through communicative norms"; *CCS WP 205 Sloan MIT WP 4030*; July.

[19] Romano, N.& Nunamaker, J.; 2001; "Meeting Analysis: Findings from Research and Practice"; *Thirtieth Forth Hawaii International Conference on Systems Science* (HICSS–34); Maui; HI.

[20] Shepherd, M. & Watters, C.; 1999; "The functionality attribute of cybergenres"; *Thirtieth Second Hawaii International Conference on Systems Science* (HICSS–32); Maui; HI.

[21] Suchman, L.; 1994; "Do categories have politics? The language/action perspective reconsidered"; *Computer Supported Cooperative Work*; 2; pp. 177-190.

[22] Tyrväinen, P.& Päivärinta, T.; 1999; "On rethinking organizational document genres for electronic document management"; *Thirtieth Second Hawaii International Conference on Systems Science* (HICSS–32); Maui, HI.

[23] Winograd, T. & Flores, F.; 1986; *Understanding Computers and Cognition*; Addison-Wesley.

[24] Winograd, T.; 1994; "Categories, disciplines and social coordination"; *Computer Supported Cooperative Work*; 2; pp. 191-197.

[25] Yates, J. & Orlikowski, W.; 1992; "Genre of organizational communication: A structurational approach to studying communication and media"; *Academy of Management Review*; 17; pp. 299-326.

[26] Yoshioka, T. & Herman, G.; 1999; "Genre taxonomy: a knowledge repository of communicative action"; *CCS WP209*; October.