

Genre Taxonomy:

A Knowledge Repository of Communicative Actions

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ABSTRACT

In this paper, we propose a genre taxonomy as a knowledge repository of communicative structures or “typified actions” enacted by organizational members. The Genre taxonomy aims at helping people to make sense of diverse types of communicative actions, and has three features to achieve this objective. First, the genre taxonomy represents the elements of both genres and genre systems, sequences of interrelated genres, as embedded in a social context considering the “5W1H” questions (Why, What, Who/Whom, When, Where, and How). In other words, the genre taxonomy represents the elements of both genres and genre systems in terms of purpose, contents, participants, timing of use, place of communicative action, and form including media, structuring devices and linguistic elements. Second, the genre taxonomy represents both widely recognized genres such as a report and specific genres such as a technical report used in a specific company, because the difference between a widely recognized genre and a specific variant based on the more general genre sheds light on the context of genre use. Third, the genre taxonomy represents use and evolution of genre over time to help people to understand how a genre is relevant to a community where the genre is enacted and changed.

We have constructed a prototype of such a genre taxonomy using the Process Handbook, a process knowledge repository developed at MIT. We have included both widely recognized genres such as the memo and specific genres such as those used in the Process Handbook itself. We suggest that this genre taxonomy may be useful in the innovation of new document templates or methods for communication because it helps to clarify different possible uses of similar genres and explicates how genres play a coordination role among people and between people and their tasks.

1. INTRODUCTION

Human communication has always been central to organizational actions. It is not too much to say that whether your business goes well or not depends in great part on how well you communicate with your customers. In many business schools and corporate in-service training courses, people learn effective managerial communication methods. In managerial communication, it is important to think strategically about your communication in order to increase the likelihood of obtaining the desired audience response and achieving your business goals.

To achieve this response, we propose a genre taxonomy, which represents both the elements of genres and the social context of genre use. A genre may be thought of as a type of communication recognized and enacted by organizational members, such as a report or a meeting [Yates & Orlikowski, 1992]. Genres may be analyzed in terms of a number of dimensions such as the What, When, Where, Why, Who/m and How (5W1H) of communication. For the last several decades, many new electronic communication media such as electronic mail and the World Wide Web have emerged and evolved, and some people don't understand well how to use these effectively and what genres to enact in these new media. We believe that this genre taxonomy can help people both to learn communication knowledge and to adapt or innovate when communications can be improved via a new electronic medium.

In the remainder of this paper, we will introduce our genre taxonomy and its prototype implementation by using the Process Handbook [Malone, et al., 1999], which is a process repository developed by the Center for Coordination Science at MIT. In the next section, we will describe the characteristics of genres of organizational communication. Section 3 describes the genre taxonomy in terms of 5W1H information, and section 4 describes genre use over time and its evolution. Section 5 explains the implementation of the prototype of the genre taxonomy including a short explanation of the Process Handbook [Malone, et al., 1999]. Section 6 discusses the implications of this genre taxonomy as a knowledge repository and the coordination roles that genres play. The paper concludes by discussing the benefits of the genre taxonomy.

2. GENRES OF ORGANIZATIONAL COMMUNICATION

While the concept of genre has a long tradition in rhetorical and literary analysis [Bakhtin, 1986], a number of researchers in cultural, rhetorical and design studies have recently begun using it to refer to a typified social action [Brown, 1994; Bazerman, 1988; Berkenkotter and Huckin, 1995; Miller, 1984]. Orlikowski and Yates applied this notion of genres to organizational communications such as business letters, memos, face-to-face meetings, reports, announcements and so on. They defined genres as “socially recognized types of communicative action habitually enacted by members of a community to realize particular communicative and collaborative purposes” [Yates

and Orlikowski, 1992 pp.299]. They identify genres by their socially recognized purpose and by their shared common characteristics of form.

The purpose of a genre is not an individual's private motive for communication, but a purpose which senders and recipients of communication in a community socially recognize and invoke in a typical situation, such as proposing a project, informing and directing in an official announcement, and deciding how to resolve a problem. Form refers to three aspects of observable communication: medium, such as pen and paper and electronic mail; structural features, such as document format; and linguistic features, such as informality, humor and technical language.

Yates and Orlikowski argued in 'Genres of Organizational Communication: A Structural Approach to Studying Communication' [Yates and Orlikowski, 1992] that genre is a structure that manifests what Giddens has called the duality of structure [Giddens, 1984]. That is, it is situated in a stream of social practices that shape and are shaped by it. Understanding this duality of structure helps us to comprehend the reason why genre change has occurred over time.

Yates and Orlikowski also examined genres elicited from electronic communications such as electronic mailing lists [Orlikowski and Yates, 1994], Usenet newsgroups [Yates, Orlikowski and Okamura, 1999] and Team Room in a Lotus Notes database [Yates, Orlikowski and Rennecker, 1997; Yates and Orlikowski, 1997; Orlikowski and Yates, 1998]. They introduced the notion of a genre repertoire [Orlikowski and Yates, 1994], a set of genres in use in a community, and analyzed variation in composition of a genre repertoire and shifts in the genre repertoire use. It is useful to examine a genre repertoire in a community because it allows the recognition and tracking of changes over time and gives researchers a chance to compare similarities and differences across communities. Bazerman introduced the notion of genre system, sequences of interrelated communicative actions [Bazerman, 1994]. Yates and Orlikowski examined the genre systems they found in a U.S high-technology company using Team Rooms in a Lotus Notes database. As they have claimed [Orlikowski and Yates, 1994], examining genre systems in a community helps to understand the context of communication and the coordination mechanisms that are used in interactions because a genre system provides expectations about purpose, participants, content, form, time and place of communicative interactions.

3. GENRE TAXONOMY

The purpose of a genre taxonomy is to help people to make sense of diverse types of communicative actions. To achieve this purpose, the genre taxonomy has to represent both widely recognized genres such as a report and specific genres such as a technical report used in a specific company, because the difference between a widely recognized genre and a specific variant based on the more general genre sheds light on the context of genre use. For example, examining what kinds of form features in a technical report genre enacted in a company are different from those of the

more general report genre helps us to discover what institutions of a company shape this specific genre.

The genre taxonomy also has to represent the elements of a genre as embedded in a social context considering the “5W1H” questions (Why, What, Who/Whom, When, Where, and How). In other words, the genre taxonomy must represent the elements of genres in terms of purpose, contents of a genre or genre system, participants, timing of genre use, place of communicative action, and genre form including media, structuring device and linguistic elements. This is similar to the approach of Yates and Orlikowski [Orlikowski and Yates, 1998] with the 5W1H questions used to elaborate and extend the elements of form.¹

Hereafter, we describe how to represent the elements of genre as embedded in a typified social context. Note that a genre may be classified in multiple ways since a genre may be embedded in multiple similar contexts.

Why: purpose of communicative action

In ‘Genre Knowledge in Disciplinary Communication [Berkenkotter and Huckin, 1995],’ Berkenkotter and Huckin used speech act theory [Austin, 1975; Searle, 1969] as a deductive analytic framework for describing the moves that actors make in texts intended to persuade in a peer review process. Although speech act theory is targeted to a speaker’s utterances, they concluded that analysis of the illocutionary act defined in a peer reviewers’ phrase provides empirical evidence that illocutionary acts do get things accomplished in the world, either through direct or indirect means.

We established initial purpose categories in our genre taxonomy based on speech act theory, and modified and added some categories using coding schemes which Yates and Orlikowski used in their empirical genre studies [Orlikowski and Yates, 1994; Yates, Orlikowski and Okamura, 1999; Yates, Orlikowski and Rennecker, 1997]. After that, we referred to Roget’s thesaurus [Roget and Chapman, 1992] and WordNet [Fellbaum, 1998], an online lexical database for English developed by the Cognitive Science Laboratory at Princeton University, for clarifying notions and writing explanations of each category. The purpose categories now consist of ten items: inform, commit, guide, request, express, decide, propose, respond, record and other (to allow expansion of a scheme that is inherently open-ended).

Some genres, especially generally recognized genres, such as the memo, have multiple purposes, and the genre taxonomy differentiates primary purposes and secondary purposes to help understand how to prioritize genre use in social contexts. For example, the memo genre is used mainly to inform its readers and record information, and it may be used for directing an order, or proposing.

¹ Yates and Orlikowski illustrate that genre systems are a means of structuring six (5W1H) aspects of communicative actions. We extend their consideration to a genre itself, which also has these aspects.

It is worth noting that a genre system usually has a different purpose than its constituent genres, because a genre system itself provides expectations about its socially recognized purposes to coordinate the collaborative activities with its constituent genres. We can illustrate this with the ballot genre system, which Yates and Orlikowski identified from a study of a group of distributed professionals using electronic mail to perform the Common Lisp specifications (hereafter we call this task the Common Lisp project). The ballot genre system has three interrelated genres: the ballot questionnaire issued by the coordinator, ballot replies generated by group members, and the ballot result, a summary of the replies issued by the coordinator. As the ballot genre system was used to poll opinions and test consensus among the participants, it might belong to the 'decide' purpose. The ballot questionnaire genre might belong to both the 'inform' and 'request' purpose categories, because it was used to inform group members about issues and to request their replies. The ballot response genre might belong to the 'respond' purpose category, and the ballot result might belong to the 'inform' and 'record' purpose categories because the coordinated used the genre to tell group members the results of a ballot and record it electronically. Thus the ballot genre system as a whole has a purpose different from the purpose of its constituent genres.

What: contents of a genre or genre system

Genres provide expectations about the content. For example, the recipient of a thank you note expects that it include some words representing sender's appreciation. Suppose that an organization has a convention of a daily morning meeting and the meeting usually includes the manager's talk about the impressions he or she feels about the present state of things. The specific face-to-face genre enacted at this organization might include the expectation of the manager's talk. The genre taxonomy represents the expected contents, such as summarized decisions and commitments for the meeting minutes genre.

As mentioned in the previous section, sometimes genres are linked to each other and constitute a genre system that coordinates communicative actions. For example, the face-to-face meeting genre system may include the meeting announcement genre, the meeting agenda genre, the face-to-face meeting genre and the minutes genre. Additionally, a genre system also provides expectations about sequences of the constituents of the genre system. In the face-to-face genre system described above, for example, it has typical sequence: the meeting announcement genre, the meeting agenda genre, the face-to-face meeting genre and the meeting minutes genre.

As the genre taxonomy indexes genre systems and also the genre constituents of each genre system, you can use the tool to discover both what genres a genre system may have and what genre systems are in the taxonomy. Both a genre system and its genre constituents are classified in the genre taxonomy under relevant purpose categories; thus you may understand the coordination process in a genre system through examining what purposes the genre system and its constituents

have. In the ballot genre system described above, for example, due to the difference of the purpose categories between the ballot genre system and the ballot questionnaire genre, you can conceive easily that an ballot questionnaire helps to coordinate the decision process by informing recipients about issues and options and requesting responses by a due date.

Who/Whom: participants in genre or genre system

A genre is enacted by participants who communicate within a community, whose size ranges from very small such as a department, a company and a class in a school to very large such as a profession and the citizenry of one or more countries. In the genre taxonomy, each genre is associated with a community to which its participants belong. For example, all genres elicited from the Common Lisp project are associated with the category named 'Genres at Common Lisp project' and all genres used in the online Process Handbook (<http://process.mit.edu/handbook.html>) are associated with 'Genres of Online Process Handbook.' Gathering genres used in the same community also represents a genre repertoire, a set of genres.

Different genres within a genre system may also be associated with different senders and receivers. In the ballot genre system, for example, the coordinator issues the ballot questionnaire and the ballot result, while other group members receive these messages and send ballot responses.

When: timing of genre or genre system use

As a genre is invoked in a recurrent situation, it relates to a timing or opportunity. [Yates and Orlikowski, 1998] For example, the thank you note genre is used when a person feels some appreciation of the activity or activities done by another. Or, the daily morning meeting genre enacted at a specific organization as described above, has an expectation of when it begins and ends, such as that it begins at 8:30 AM and ends at 8:40 AM. The genre taxonomy would include a description of the timing of genre use if it is an expectation of that genre. This timing may be that a genre will be used within a certain time period of an event (such as thank you notes being sent within a few weeks of the occurrence that is being appreciated) or at set time intervals (such as the daily morning meeting).

As mentioned previously, a genre system may have expectations about the sequence of its constituents. Thus, the constituent genres of a genre system are related by a relative timing within a genre system. Altering the order of the constituents of a genre system modifies the genre system into a different variant. For example, if a meeting announcement is sent before an agenda, the decision process used to decide which people will participate may be different than if an agenda is sent out before or along with the announcement.

Where: place of communicative action

In a sense, a genre reflects a culture which the participants in a community share, because they identify the recurrent situation or socially defined need from the history and nature of established practices, social relations, and communication media within organizations. For example, a kaizen proposal is used in Japanese corporations to facilitate bottom up quality improvement, a common activity in Japanese manufacturing departments. Thus, the genre taxonomy represents the place where a genre is typically enacted such as Japan, or Massachusetts, or northeastern United States, and so on. For electronic communication over the internet, the physical spaces of communicative actions are becoming less meaningful because of the borderless characteristics of cyberspace. However, because a virtual space addresses expectations of “where” in an internet community, the genre taxonomy also may have virtual space categories different from those of physical space. In a study of a Japanese R&D project group by Yates and Orlikowski, for example, the members in different subgroups enacted genres on different “local” newsgroups based on Usenet.

A genre system also has expectations about physical or virtual place. Using the ballot genre system as an example, if the participants are located close to each other, then a physical or face-to-face balloting system might be easy to implement. In the case of the Common Lisp Project, an email approach was used which allowed for the coordinator and the various respondents to be geographically dispersed.

How: genre and genre system form

As we described in the previous section, a genre is typically characterized by its form. The form refers to observable features which include structural features, medium, and linguistic features. The genre taxonomy represents these features used for identifying a genre. For example, the genre taxonomy includes the ‘Traditional Memo’ genre, elicited from a Japanese R&D group by Yates and Orlikowski, which has ‘Kanji signature’ and ‘no embedded message’ as structural features, ‘Usenet news group adjusted to Japanese environment’ as medium, and ‘Kanji subject line’ and ‘no dialect’ as linguistic features.

A genre system also has expectations about form, including expectations about media, and about the genres making up the system. For example, the face-to-face meeting genre system typically includes an announcement and an agenda in writing (either paper base or electronic), a face-to-face meeting, and minutes in writing. But form features may vary by local conventions or even by instance. For example, the face-to-face meeting genre system enacted in a certain group may not include the agenda genre and/or minutes genre due to their conventions.

4. GENRE EVOLUTION OVER TIME

From the organizational point of view, a genre is used in a process cycle that consists of enacting a genre and observing genre use¹. Participants included in a communication observe genre use, and during this process they identify a recurrent situation and changes in a situation based on which they feel a necessity to change. At the same time the genre influences them. In enacting a genre process, the participants identify genre rules from their genre experiences and select a proper genre. They usually reproduce a genre, but sometimes elaborate, replace or undercut it either inadvertently or deliberately in order to adapt to a change of situation. A sender of communication usually chooses or modifies a genre from his or her genre experience, recipients invoke a similar recurrent situation and identify the genre or genre variant, and finally enact it in a community. A specific genre such as an email memo used in a company is a variant from the more general memo, and the genre taxonomy places specific genres in a category named ‘examples of a widely recognized genre’ which is a subcategory under this general genre category.

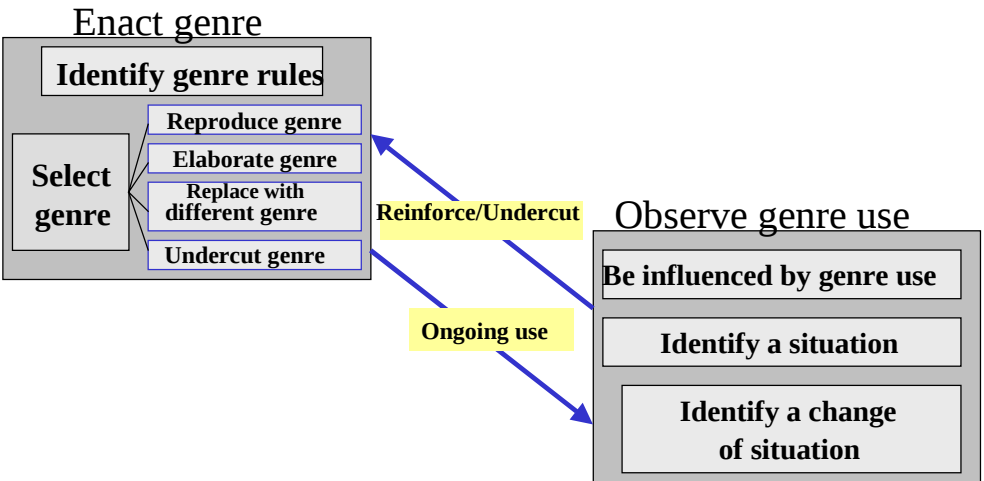


Figure 1. Process cycle of genre use over time

Figure.1 shows the ‘genre use over time’ process cycle, a dynamic state of production, reproduction and change, represented in the genre taxonomy. A genre can evolve from another genre because participants can elaborate or replace a genre during the enactment of a genre process. For example, as Figure 2 shows, a memorandum was elaborated from the informal business letter genre and the electronic memo genre was elaborated from the memorandum genre. In each block, such as ‘Informal business letter,’ a genre had been used in an ongoing manner, in other words, in the same process cycle of ‘genre use over time’ illustrated in Figure.1.

¹ For analytic purposes, we separate ‘Enact genre’ and ‘Observe genre use’.

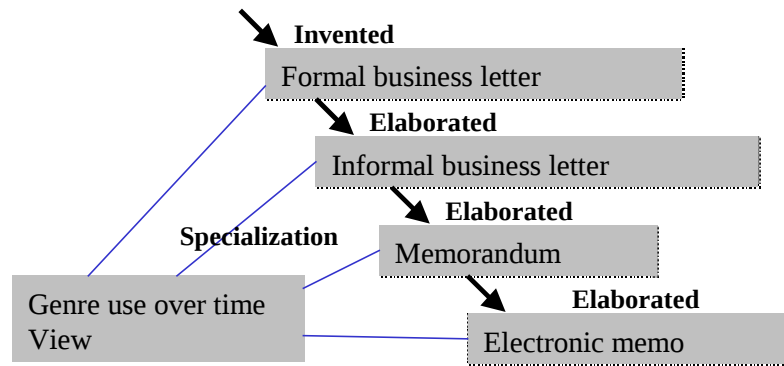


Figure 2. Genre evolution example from business letter genre to electronic memo genre

Figure 3 is a part of a genre chronology example which shows the elaboration from informal business letter genre to memorandum genre depicted in Figure 2. When you compare the genre taxonomy shown in Figure 3 and that shown in Figure 1, you could deduce that both ‘Informal letter’ process and ‘Memorandum’ process are variations or ‘specializations’ of the ‘genre use over time’ process. More detail on specialization is described below.

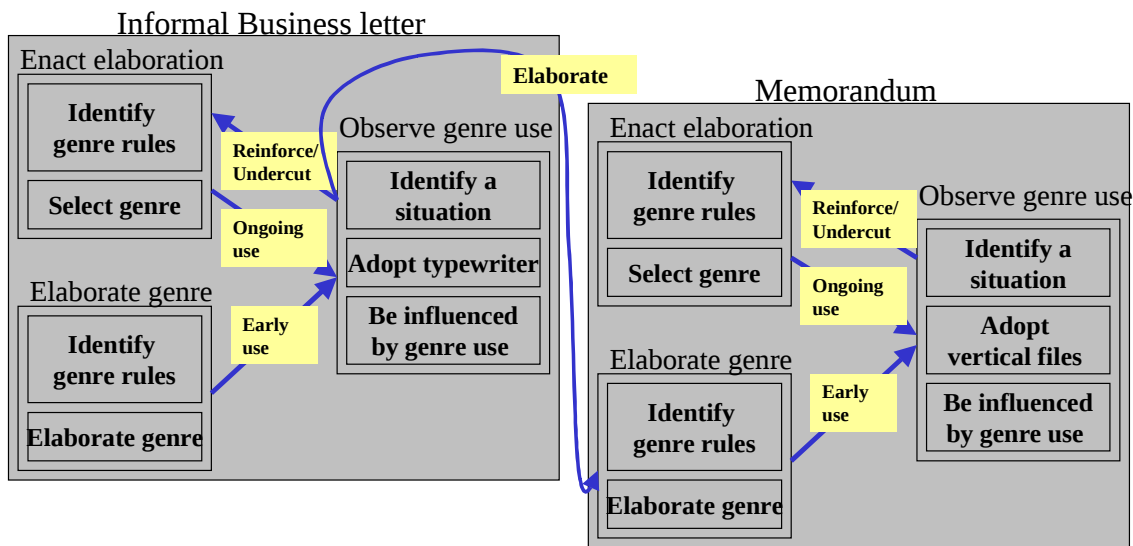


Figure 3. Genre elaboration from informal business letter genre to memorandum genre

5. PROTOTYPE OF GENRE TAXONOMY

We implemented a prototype of the genre taxonomy using the Process Handbook, a process repository that the Process Handbook Project at the Center for Coordination Science in MIT has been developing. We briefly describe the basic concept and features of the Process Handbook used for making the prototype of the genre taxonomy, then describe how to implement the genre taxonomy prototype, including categories and contents.

5.1 Process Handbook [Malone, et al., 1999]

The goal of the Process Handbook project is to develop a process repository which contains a generic framework for classifying business processes¹ and selected examples of "best practices," case studies, and other process descriptions, with integrated tools for viewing, retrieving and authoring process knowledge.

The Process Handbook has two key concepts, process inheritance and the distinction between processes and the dependencies among them. Each process in the Process Handbook has certain attributes such as name, description, actor, etc., and can have additional attributes added (such as performance attributes).

Process inheritance

There are two hierarchies that represent process inheritance in the Process Handbook. One is a decomposition hierarchy, a "has-a" relationship network between activities (i.e., X has a Y), in which an activity in Process Handbook is broken down into its subactivities. The other is a specialization hierarchy, an "is-a" relationship network between activities (i.e., X is a Y), in which an activity inherits the attributes from its parent activities. The Process Handbook allows for multiple inheritance. This specialization hierarchy is similar to object oriented programming, but it is specialized in terms not of objects (nouns) but processes (verbs). Figure 4 shows a sample specialization and decomposition hierarchy among three different sales activities in the Process Handbook².

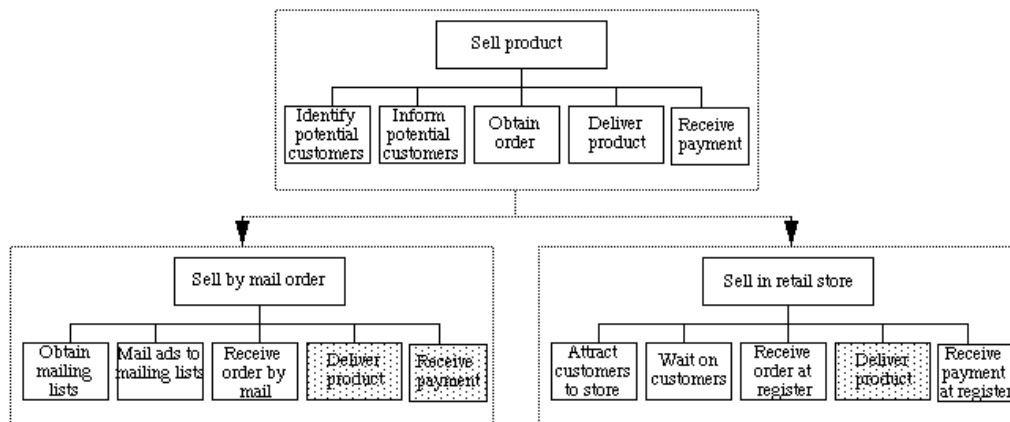


Figure 4. Sample representations of three different sales processes

"Sell by mail order" and "Sell in retail store" are specializations of the generic sales process "Sell something." Subactivities that are inherited without change are shaded.

¹ Note that the Process Handbook project uses the terms 'process' and 'activity' interchangeably.

² Figure 4, Figure 5, Figure 6 and Figure 7 are borrowed from 'Tools for inventing organizations: Toward a handbook of organizational processes [Malone, et al. 1999]

The Process Handbook also uses a bundle in which related alternative activities are grouped together. Figure 5 shows two examples in the specialization hierarchy. One bundle “Sell how?” collects alternatives of how the selling is achieved and the other bundle “Sell what?” collects alternatives for what is been sold. Note that the Process Handbook has a syntax for bundle, which begins with ‘[,’ and ends with ‘].’

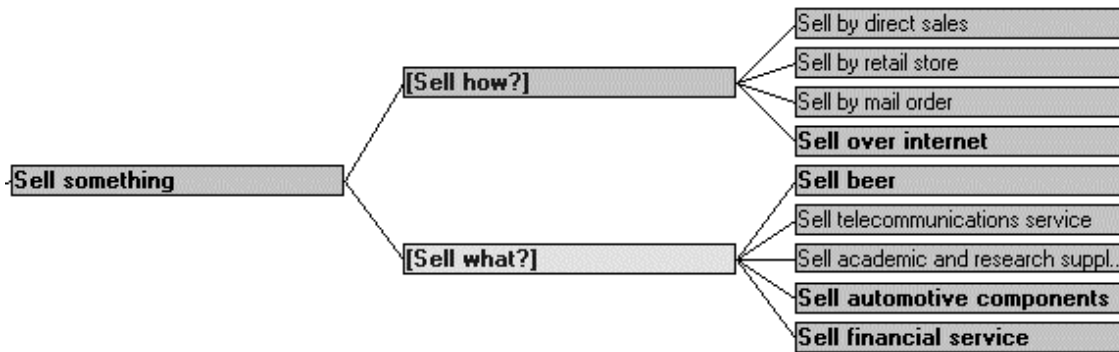


Figure 5. Summary display showing specializations of the activity "Sell something"

Items in brackets (such as "[Sell how?]") are "bundles" which group together sets of related specializations. Items in bold have further specializations.

Distinction of processes and their dependencies

In coordination theory [Malone, T. W. and Crowston, K.,1994], coordination is defined as managing dependencies among activities, and there are three types of dependencies: flow, sharing and fit.

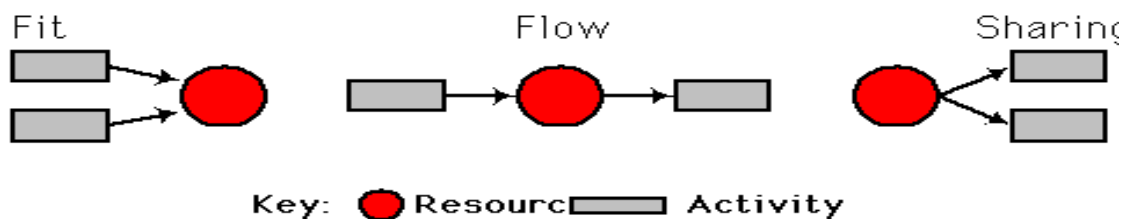


Figure 6. Three basic types of dependencies among activities

A coordination mechanism is used to provide the right resource at the right place and time. It is useful to detect instances of a coordination mechanism and find alternatives to analyze these dependencies among activities. For example, there is a flow dependency from ‘Make tires’ to ‘Assemble cars,’ and the flow dependency can be replaced by a coordination process ‘Manage flow, make to inventory,’ or other options.

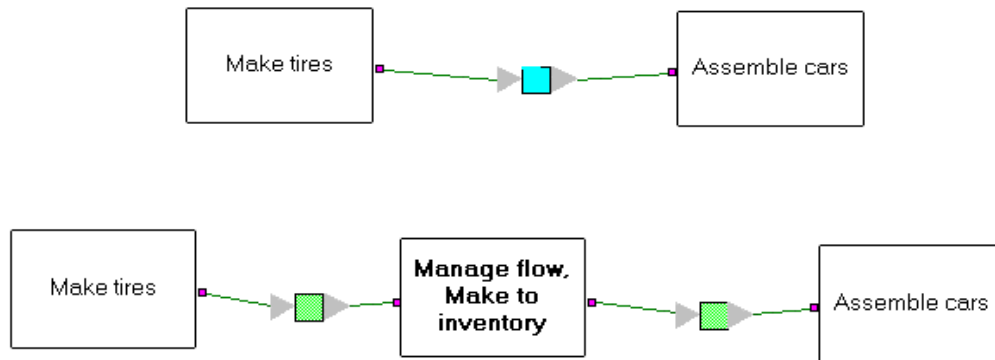


Figure 7. Alternative view of the same sample process

The upper view shows a "flow" dependency between two activities. The lower view shows the flow dependency replaced by the coordination process that manages it.

5.2 Prototype of genre taxonomy

The prototype of the genre taxonomy currently contains both widely recognized genres and specific genres (Table 1). Note that in the table, $A(A1, A2, \dots)$ means that A is a genre system which consists of constituent genres $A1$ genre, $A2$ genre and so on. Currently, the open set of widely recognized genres includes 14 genres: business letter, memo, expense form, report, face-to-face meeting genre system, personal homepage and so on. Specific genres include the results of genre analysis in three studies undertaken by Yates and Orlikowski: Common Lisp project genres, Acorn project genres, and Team Room genre systems. Specific genres also include the Online Process Handbook genre system. (The Online Process Handbook is a viewer of the Process Handbook using a Web browser.) Note that the genre name in the genre taxonomy is not simply the genre name such as 'memo' but begins with a verb name such as 'Communicate using memo' because of the Process Handbook syntax in which every activity name begins with a verb.

Hereafter, we will describe how to implement the genre taxonomy in the Process Handbook, including providing examples of the genre taxonomy.

Source	Genres
Widely recognized genres	business letter, memo, expense form, report, dialogue, proposal, announcement, thank you note, greeting card, face-to-face meeting system (announcement, agenda, presentation, discussion, voting, minute), FAQ, personal homepage, organizational homepage, hotlist, intranet homepage
Common Lisp project [Orlikowski and Yates, 1994]	memo, dialogue, CL proposal, ballot system (ballot questionnaire, ballot response, ballot result)
Acorn Project [Yates, Orlikowski and Okamura, 1999]	official announcement, trip report, publication notice, release note, reference, lost & found system (lost, found), team announcement, traditional memo, electronic memo, dialogue, solicitation, team report
Team Room in Mox Corporation [Orlikowski and Yates, 1998]	collaborative repository (place holder, response), collaborative authoring(circulation draft, reaction, final version of draft), meeting documentation (logistics, agenda, discussion)
Online Process Handbook [Malone, and et al, 1999]	Welcome page, login page, introduction (user guide, reference), contents page, guide tour, search (search request, result), process knowledge viewer (process compass, process viewer, description, attributes list, tradeoff table, mail), discussion, options

Table 1. Current contents in the genre taxonomy

Implementation of elements of genre embedded in a social context

The genre taxonomy is implemented using the specialization hierarchy, the decomposition hierarchy, flow dependency and the description field of an activity in the Process Handbook. Now we describe how each aspect of the 5W1H genre framework is implemented.

Why: the purpose of genre

The genre taxonomy uses a specialization hierarchy and bundles to represent ten purpose categories described in Section 3. Figure 8 shows the purpose categories in the genre taxonomy. Each purpose category such as ‘Communicate using genres to inform’ is under the ‘[Communicate using genres for what purpose?] bundle.

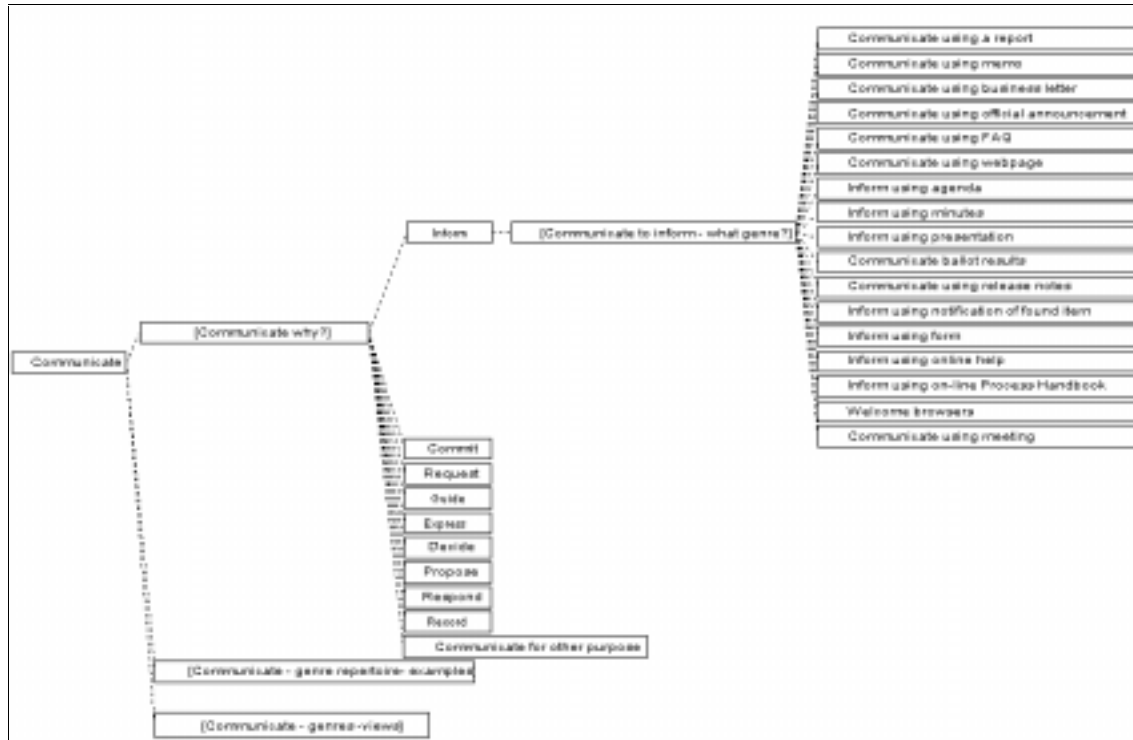


Figure 8. Process categories in the Genre taxonomy

If a genre has only one primary purpose, then we use the purpose in its title, such as ‘Proposing using a proposal.’ If it has multiple primary purposes, we use ‘communicate’ in its title, such as ‘Communicate using discussion.’

Figure 10 shows the description field of the ‘Communicate using genres to inform’ as an example of what could be included in this field. This explanation is helpful to understand a purpose category and provides a guide for classifying a new genre into the genre taxonomy. More specified genres such as ‘Communicate using memo,’ which represents the memo genre, are placed under the purpose categories consistent with its primary purpose for communication via a bundle such as ‘[Communicate to inform – what genre?]. As Figure 9 shows, the specialization hierarchy and bundles help us to understand how a genre is classified by its purpose.

Secondary purposes of a genre are represented in the description field of the genre. Figure 10 shows an example of description field of the memo genre which has many secondary purposes: ‘commit’, ‘request’, ‘express’, ‘propose’, and ‘other.’ This description also helps to identify how a genre may be used for alternative ways of communicating.

This activity is reserved to portray the research of JoAnne Yates and Wanda Orlikowski. The entries here were prepared by Takeshi Yoshiosha, a visiting scientist from Fuji-Xerox at CCS.

In WordNet, an online lexical database for English developed by the Cognitive Science Laboratory at Princeton University, the verb "Inform" has 3 senses for a verb.

Information below is "Synonyms, ordered by frequency" of the verb "inform"

Sense 1

inform -- (give information; "I informed him of his rights")

=> communicate, intercommunicate -- (transmit thoughts or feelings; "He communicated his anxieties to the psychiatrist")

Sense 2

inform -- (give character or essence to; "The principles that inform modern teaching")

=> change, alter -- (cause to change; make different; cause a transformation; "The advent of the automobile may have altered the growth pattern of the city"; "The discussion has changed my thinking about the issue")

Sense 3

inform -- (act as an informer; "She had informed on her own parents for years")

=> inform -- (give information; "I informed him of his rights")

We use 'Inform' in the sense of giving information and acting as an informer

Figure 9. Description of the activity 'Communicate using genres to inform'

A memo can be used for many purposes.

Primary purposes include:

Inform and
Record

Secondary purposes include

Commit
Request
Express
Propose
Respond

Figure 10. The excerpt of the description of the activity 'Communicate using memo'

What: contents of a genre and genre system

The genre taxonomy uses a decomposition hierarchy to represent a genre system. Figure 11 illustrates what genres compose a typical face-to-face meeting genre system. While not all meetings will have all of these components, in this example, we can see that the face-to-face meeting genre system typically consists of the meeting announcement genre, the agenda genre, the meeting genre, and the minutes genre.

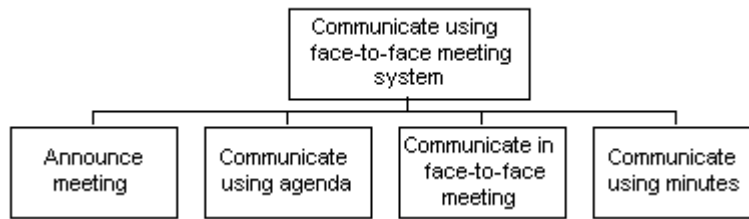


Figure 11. Description of the activity ‘Communicate using face-to-face meeting system’

The genre taxonomy uses a description field of the activity for representing the contents of a genre itself. Figure.12 is an excerpt of the description where the contents of the thank you note genre are described.

This activity is reserved to portray the research of JoAnne Yates and Wanda Orlikowski. The entries here were prepared by Takeshi Yoshioka, a visiting scientist from Fuji-Xerox at CCS.

A thank you note is used primarily to Express/gratitude.

‘Thank you note’ includes some words or phrases expressing appreciation to the recipient(s) for the activity or gift(s) furnished to a sender.

In U.S, the time within which a thank you note should be sent depends upon the number of gifts received. For a few gifts, a couple of weeks would be typical. For a large number such as a wedding, 6 weeks or more may be typical.

Figure 12. Description of the activity ‘Expressing thanks using thank you note’

Who/Whom: participants in genre

The “actor” attribute of an activity in the Process Handbook is intended to represent people who perform a process. Multiple actors can be included in this attribute, so both senders and recipients can be included. If it is important to segregate senders and recipients for analysis, new attributes can be added to the various activities to reflect this.

The genre taxonomy uses the specialization hierarchy and the bundle ‘[Communicate using genre repertoire – examples]’ to show how different communities enact a set or repertoire of genres. Each specialization activity is named using ‘{, ‘ and ‘}’ such as ‘Communicate using genre {Common Lisp project}.’ It also uses a decomposition hierarchy to represent the specific genres enacted in a community. Figure 13 illustrates the genre repertoire identified in the Common Lisp Project [Orlikowski and Yates, 1994], which consists of four activities: ‘Decide using ballot system {Common Lisp Project},’ ‘Communicate using dialogue {Common Lisp Project},’ ‘Communicate using memo {Common Lisp Project}’ and ‘Communicate using CL proposal {Common Lisp Project}.

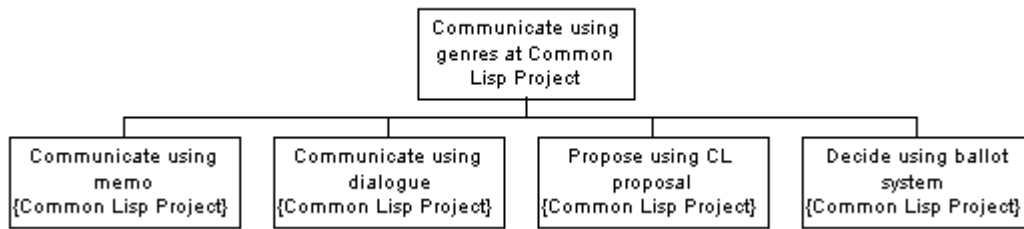


Figure 13. The decomposition hierarchy of the activity ‘Communicate using genres {Common Lisp project}’

When: timing of genre use

The genre taxonomy uses the decomposition hierarchy and flow dependencies to represent the sequence of the genre constituents within a genre system. Figure 14 is the dependency diagram of the ballot genre system in the Common Lisp project where each activity is a constituent of the genre system. Figure.14 describes the sequence of the ballot genre system: first a coordinator initiates the ballot by sending a questionnaire, then members respond to his request and the coordinator analyzes the responses, and then the coordinator sends the results to the members. It is worth noting that when the sequence of the genre constituents is not fixed, we need not set flow dependencies among the genres.



Figure 14. A dependency diagram of the ballot genre system at the Common Lisp project

The genre taxonomy also uses the description field of the activity to represent the timing and situation of genre use. Figure.12 is the description of when the thank you note genre is used. It helps people to understand when the genre is commonly used within different cultures.

Where: place of communicative action and How: forms of genre

Though the Process Handbook can add new attributes such as ‘place’ and ‘form features’ to all activities used in the genre taxonomy, the genre taxonomy does not currently use those attributes because it is not very important to segregate this information for attributes. In the genre taxonomy, the description field is used for representing both a place of communicative action and the form of the genres. Figure 15 is an excerpt of the description of the memo genre

This activity is reserved to portray the research of JoAnne Yates and Wanda Orlikowski. The entries here were prepared by Takeshi Yokiosha, a visiting scientist from Fuji-Xerox at CCS.

...

Memo is used for internal correspondence in an organization. Memo was elaborated from an informal business letter in U.S, and has come into wide use in all industrialized nations.

Memo is used both in paper media and in electronic mail. The genre represented here is the memo genre in the paper medium. The memo often has a standardized memo heading, and direct language is used.

The memo used in electronic mail is represented in 'Communicate using electronic memo'

Figure 15. An excerpt of description of the activity 'Communicate using memo'

Evolution of a genre over time

The specialization hierarchy, the decomposition hierarchy and flow dependencies are used to implement the view of genre use over time. As mentioned in Section 3, genre use over time has a process cycle.

Figure 16 is a dependency diagram from the Process Handbook where each activity in the cycle is an activity and each relation between processes is represented by a flow dependency. Note that it is usually only possible to identify the initial use of a genre until after its adoption. If no one ever reinforces the usage of a 'proto-genre,' it never becomes a genre.

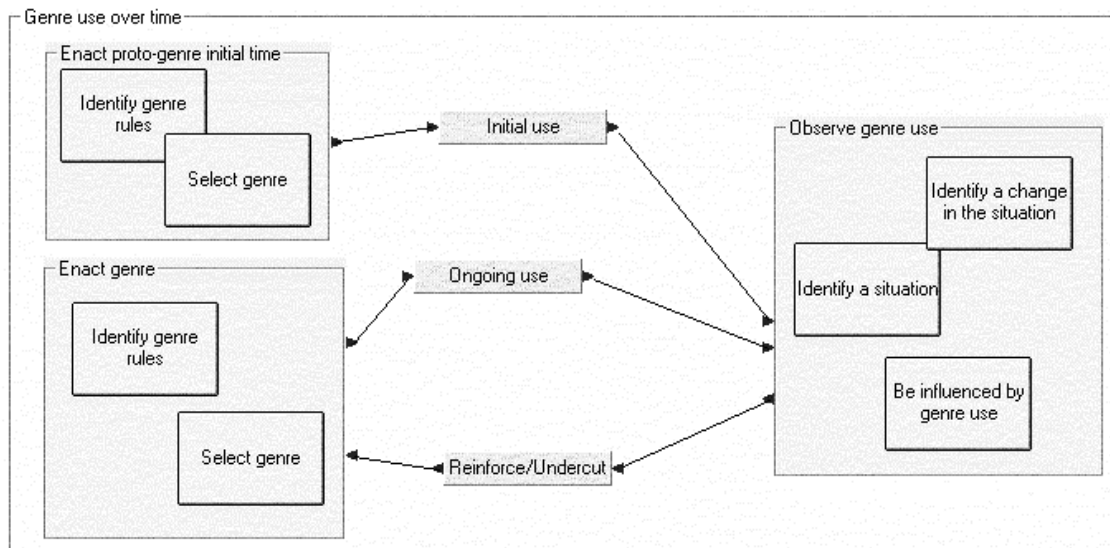


Figure 16. The dependency diagram of 'Genre use over time view'

The specialization hierarchy and bundle are used to represent the relations between a general genre and its specific variants enacted in an organization. Figure 17 shows an example that uses a specialization hierarchy and a bundle named [Communicate using genres for official announcement – examples] to represent the relations between the official announcement genre and its variant genres such as the official announcement genre used in the Acorn project. Detecting the differences between those genres may give us an initial opportunity to consider the context of specific genres in terms of why, how and when the differences emerged.



Figure 17. A specialization hierarchy example in the genre taxonomy

Figure 18 shows the evolution from the business letter genre to electronic memo via memorandum using a decomposition hierarchy, where the top activity named ‘The evolution of electronic memo’ is under ‘Chronology view’ as shown in Figure 8. During the evolution of the electronic memo genre, the informal business letter genre was elaborated from the formal business letter genre, the memorandum genre was elaborated from the informal business letter genre, and the electronic memo genre was elaborated from the memorandum genre. To represent this evolution, Figure 18 shows that each subactivity, such as ‘Formal Business Letter,’ under the top activity is a specialization of ‘Genre use over time’ activity. In order to represent evolution type, ‘Enact genre’ activity is replaced by various specializations of the activity, such as ‘Enact elaboration of genre’ activity. Constituent activities such as ‘Select genre,’ may also be replaced by a more specialized activity, such as with the ‘Enact genre’ activity. This representation using process inheritance is very simple and a powerful feature of the Process Handbook. The genre taxonomy can represent the relation between the chronological view and genre use over time efficiently.

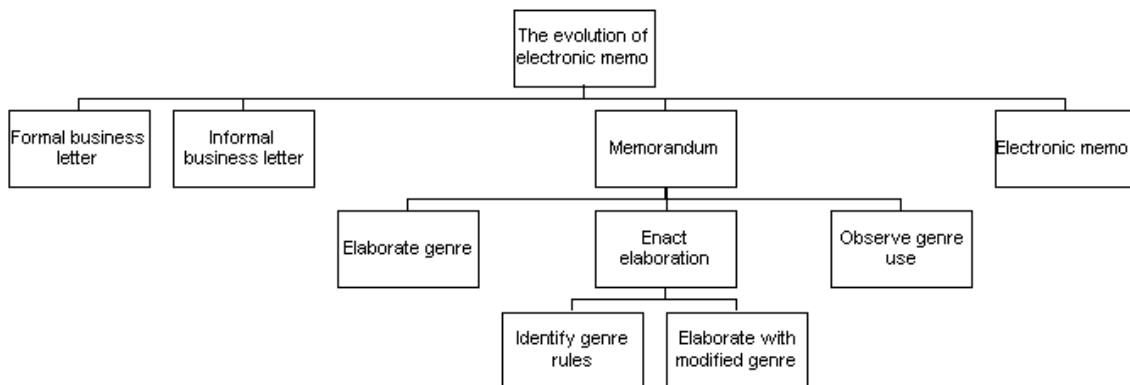


Figure 18. Genre chronology example, The decomposition hierarchy of ‘The evolution of electronic memo’ for a genre chronology

5. IMPLICATIONS

In the above sections, we have only alluded to the benefits and characteristics of the genre taxonomy as a knowledge repository. In this section, we demonstrate how the genre taxonomy may be used as a knowledge repository through an illustrative example showing both how a different but similar genre can be identified and how the coordination aspects of the genre can be elicited.

Suppose that several months ago an organization began a task force whose members are distributed geographically. The task force members have used a bulletin board on the organizational intranet for decision making, but the problem is that it takes a long time to make decisions.

The leader, Toru, may get an idea about how to address this problem by looking at the genre taxonomy. First, he specifies the genre constituents in the decision making process using the bulletin board: an agenda genre which contains only information about discussion items he posts, a proposal genre which describes a member's opinions, a dialogue genre for responding to members' opinions and a memo genre which the leader uses to post the results of discussion. These genres compose an asynchronous discussion genre system named 'Intranet bulletin board discussion genre system' the purpose of which is decision-making.

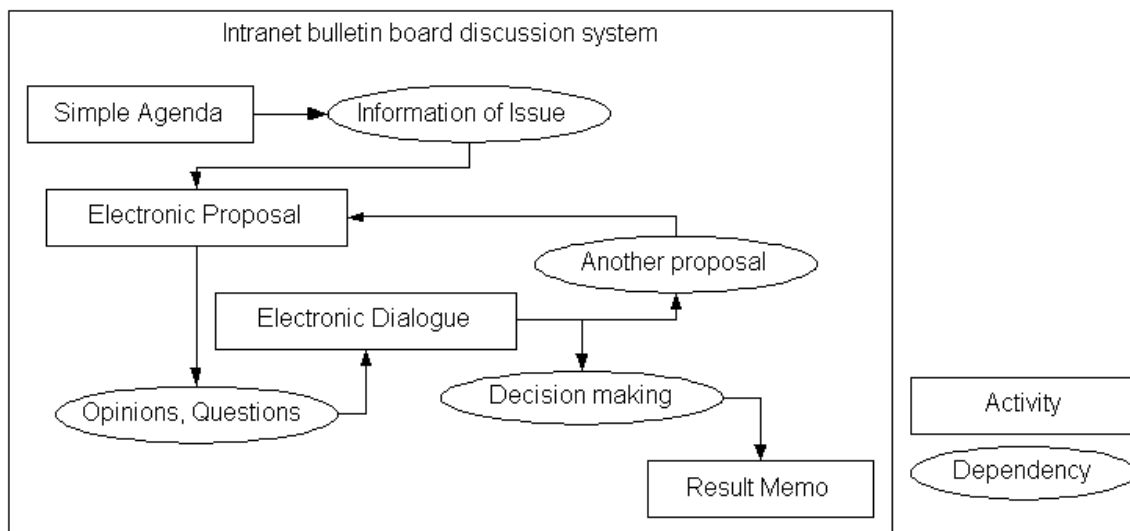


Figure 19. The original dependency diagram of the activity 'Decide using Intranet bulletin board {Task X}'

He stores the genre system and these genres in the genre taxonomy, including a dependency diagram which describes the relationship among the above genres in the genre system. Figure 19 is the dependency diagram described above, and Figure 20 shows where these genres are set in the purpose categories in the genre taxonomy.

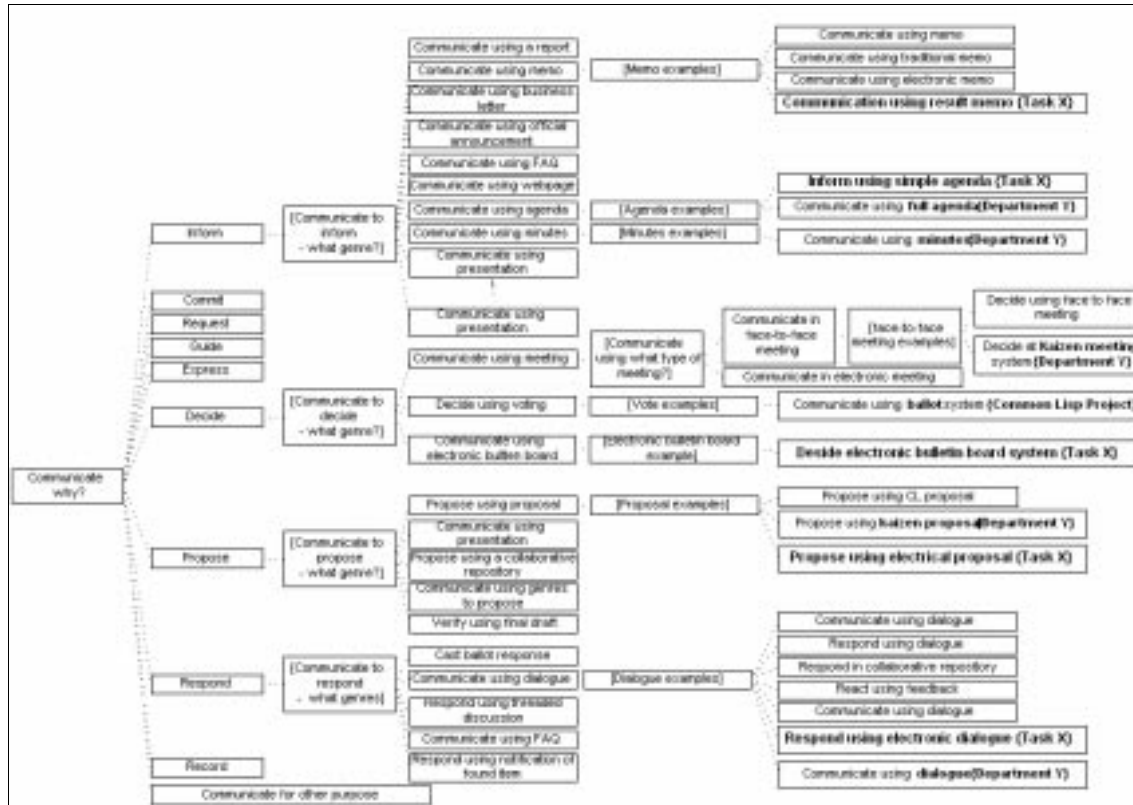


Figure 20. A specialization hierarchy in purpose categories in the genre taxonomy

Looking at the specialization hierarchy of ‘Communicate using genre to decide’ which has the same purpose as the ‘Intranet bulletin board discussion genre system,’ the leader Toru finds a face-to-face genre system enacted by another organization. He compares these genre systems using dependency diagrams (Figure 20, Figure 21). As a result, he identifies that in the face-to-face meeting system the agenda genre directs members to prepare proposals before discussion. He gets an idea that the agenda genre in the ‘Intranet bulletin board discussion genre system’ could include directions for members to prepare proposals by a due date.

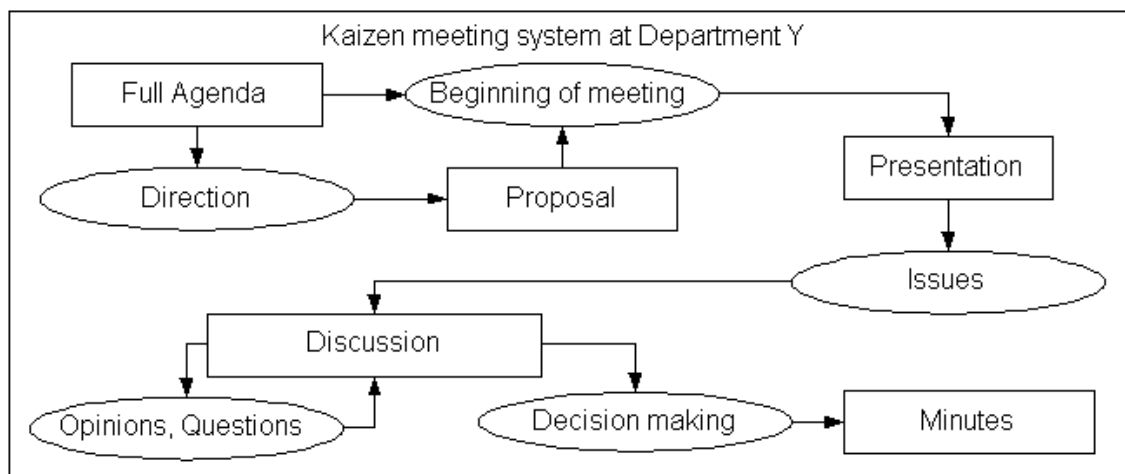


Figure 21. The dependency diagram of the activity ‘Decide at kaizen meeting system {Y}’

He also seeks an idea for an efficient way of decision making. He recognizes the ‘ballot genre system’ used in the Common Lisp project as a decision making process because the flow dependency from the dialogue genre to the memo genre used to inform participants of the result of a discussion is named ‘decision making.’ He adopts this genre system as a coordination mechanism to manage the decision flow.

Incorporating these changes, ‘Intranet bulletin board discussion genre system’ evolves as shown in the dependency diagram in Figure 22. Note that figures with hatching are introduced from the leader’s ideas.

To sum up, the leader examines a similar genre system located by the purpose category in the genre taxonomy, and gets an idea through comparing between the genre system which his community has enacted and the genre system identified in the genre taxonomy using dependency diagrams. He also has established a new coordination mechanism for managing the flow of decisions through searching for other functions similar in structure to his organization’s flow dependency. The genre candidates emerging from his ideas may or may not be accepted in his organization, because the members may or may not enact them through ongoing use as shown above in Figure 1.

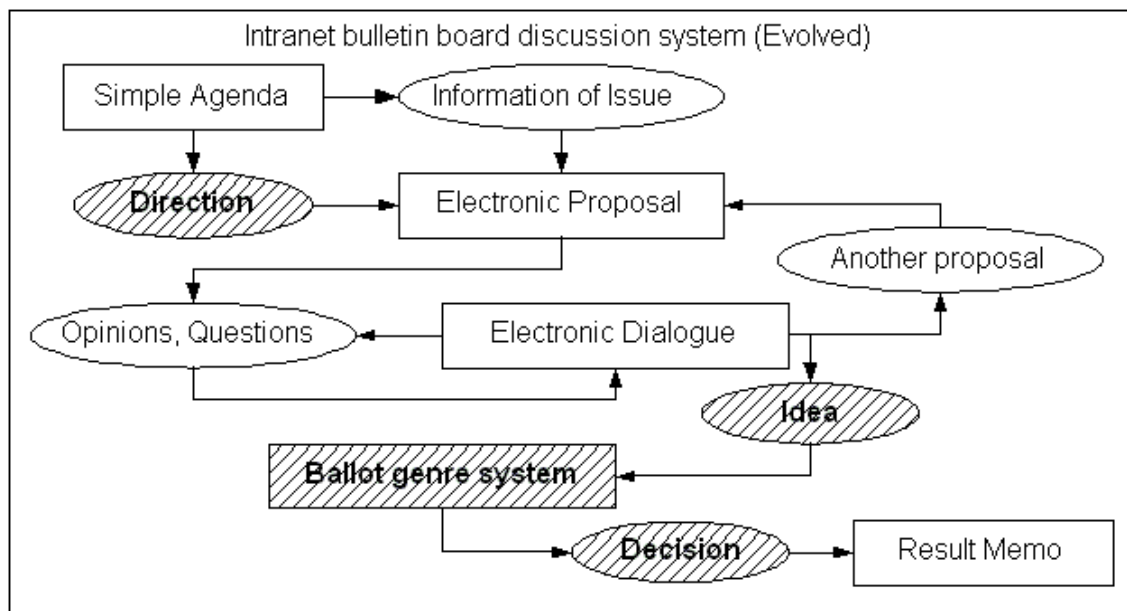


Figure 22. The new dependency diagram of the activity ‘Decide using Intranet bulletin board {Task X} (evolved)’

6. CONCLUSION

The genre taxonomy described here has benefits as a knowledge repository. It can help managers, consultants, and groupware designers learn communication methods and apply effective methods to their situation, because the genre taxonomy provides diverse social contexts of communicative actions. For example, the views of genre use over time and the genre chronology in the genre taxonomy help people to understand the duality of structure of a genre that shapes and is shaped by communicative actions situated in a stream of social practices. If the developers or administrators of a groupware tool, which is developed to facilitate group communication, understand this duality of structure, they could begin [Orlikowski, 1992] to understand why and how the community members deny or undercut the groupware in their ongoing use even though it satisfies all of the needs specified by the community before its development.

The genre taxonomy also has the benefit of giving people a source for new ideas in order to design new communication methods, redesign existing communication methods or resolve problems relating to communicative actions. It may also be possible to anticipate possible changes in a genre by examining any evolutionary histories of similar genres represented by the chronology examples in the genre taxonomy. For example, when an organizational change or technology change initiates an evolution of a similar genre, and if we perceive such changes, we could anticipate (though never completely accurately) how the genre might evolve. We could also have a plan to adapt the genre to the change by mimicking or modifying variations of the similar genre that occurred during its evolution.

The prototype of the genre taxonomy now contains only 15 generally accepted genres and 4 kinds of specific genres used in the organizations. The set of genres is an open set, so no repository can ever be ‘finished’ or ‘complete.’ As with all other knowledge repositories, the more knowledge (in this case genres) stored in it, the more benefits the genre taxonomy can provide. It is obviously necessary to add more genres to the genre taxonomy and to evaluate the communication practices in more organizations. However, we believe that the prototype shows the potential of the genre taxonomy as a knowledge repository and it provides some benefits to communities who want to learn to communicate well.

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