MAKING THE WEB MORE PRAGMATIC: EXPLORING THE POTENTIAL OF SOME PRAGMATIC CONCEPTS FOR IS RESEARCH AND DEVELOPMENT

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Abstract

In this paper we examine some pragmatic concepts that we believe have a potential in relation to three core activities of the IS-field; 1) description and understanding, 2) evaluation, and 3) design. The concepts that we will examine are "social activity", "communicative act", "sequences of communicative acts" or "exchange types", "communicative feedback" and "turn management". We describe the concepts and then exemplify how they can be used to analyze web services by examining e-mail and Wikipedia as two activities currently on the web. Our analysis leads to a partly new description of both phenomena. It also leads to a number of open questions concerning the functionalities of both phenomena.

Keywords: Social Activity, purpose, role, artifacts/instruments, environment, communicative act, commitments, obligations, subactivity, exchange unit, feedback, turn management

Introduction

In this paper we will examine some pragmatic concepts that we believe have a potential in relation to three core activities of the IS-field; 1) description and understanding, 2) evaluation, and 3) design. The concepts that we will examine are "social activity", "communicative act", "sequences of communicative acts" or "exchange types", "communicative feedback" and "turn management". Firstly, inspired by the Wittgensteinean notion of "language games", we introduce the concept of "social activity" as a convenient mid-range concept of social organization to capture variation in communicative practice on a level that we believe is significant for the description and understanding, evaluation, and design of information systems. We then introduce the concept of" communicative act" as a generalization of the concept of "speech act" that historically (relying on Austin (1962), Searle (1969) and Habermas (1981)) has influenced the IS-field. In doing this, we go back to the pragmatic foundations of the communicative act, where we take communication to include not only speech, but also other modes of production, such as gestures, pictures, writing, and electronically mediated versions of these. We adopt an analysis of communicative acts that has been developed as a criticism of the Austinean analysis of speech acts (which is also the analysis adopted by Searle and Habermas) in terms of locutionary, illocutionary, and perlocutionary acts (c.f. e.g. Allwood, 1977; 1978). This analysis enables us in a new way to describe and understand why there are sequential patterns of communicative acts. Another goal is to focus on the interactive aspect of communication more strongly than has been done in traditional pragmatics, and as a part of this give a better analysis of the recipient's active role in communication. This role can be clarified by examining the phenomenon of communicative feedback. Besides communicative feedback, we also consider turn management (i.e. ways in which the right to communicate is distributed among participants, e.g. who can communicate about what and how long?) that is a prominent feature of any communicative interaction.

Using the concepts included above, we will examine two examples of Web related use. The examples are *user-driven content generation in Wikipedia* and *written communication via e-mail*. Our examination reveals that the use of the mentioned pragmatic concepts to a greater extent, than previously, allows us to describe and understand these

and probably other web-related phenomena. The concepts not only allow us to describe and understand, but also allow us to evaluate web related (and other) information systems so that we can discuss if the present Web-support for an activity and a related IS-system allows the activity to be optimally realized, and if specific aspects of the activity, such as sequential patterns, feedback, and turn management are designed in a good way. By "good" we will roughly mean "a manner which allows an efficient and ethical way of achieving the purpose of the activity.

This paper, thus, explores a number of pragmatic concepts lying outside of the presently established "LAP" framework. Below, we first give a short description of these concepts and then, in the second part of the paper, discuss how they could be applied to phenomena that are to be found on the pragmatic web. The concepts all have a pragmatic motivation in the sense that they are rooted in ideas concerning action and interaction.

Some core concepts in Activity based Communication Analysis

Social Activities

Taking the notion of "social activity" as our point of departure, we will now briefly describe the concepts introduced above.

Social activities provide a natural grounding for the idea of "language games" introduced by Wittgenstein (c.f. Wittgenstein, 1953; Allwood, 2000). They are a natural mid range unit of social life. Social activities together constitute the dynamic aspect of an organization. Thus, an organization like a university is the host of several social activities like lectures, seminars, tests, gossip, and job interviews, which together constitute its dynamic side.

A social activity can be defined as a collective interaction with a purpose and often has socially regulated means and roles. Communication is seen the basic force of social cohesion and joint social action and is the primary means through which social activities are pursued. The fact that communication is the primary instrument for social activities provides an explanation for why features of communication vary with social activity. Compare the differences and similarities between communication in activities like informal conversation, enquiries in a travel agency, love making, police interrogation and teaching. Social activities can be described by the following factors (and possibly others), (i) the **purpose** of the activity (e.g buying and selling), (ii) the typical **roles** of the activity (e.g. shop clerk and customer). Roles can often be further analyzed by describing the rights, obligations and competence requirements that are connected with the role, (iii) the typical **artifacts** (instruments) of the activity (e.g. money, counter, cash register) and (iv) the **environment** (e.g. a shop). These 4 factors have turned out to be very useful as a background for description, explanation and evaluation of the communication in the activity. Analyzing the relation between activity and communication thus, allows not only for description and explanation but also for improvement of the communication in the activity.

Social activities often have internal structure, e.g. they may have characteristic openings and closings. Getting a meal at a restaurant might have the following phases or **subactivities** (i) Greeting, (ii) receiving a menu, (iii) making a selection, (iv) placing an order, (v) waiting for the meal, (vi) receiving the meal, (vii) eating, (vii) asking for the bill, (viii) paying, (ix) thanking and farewell. Typically each subactivity will also exhibit a specific structure of communication.

This structure will to some extent consist of typical **"sequences of communicative contributions/communicative acts" or "exchange types",** This structure is predicated on the fact that both activities and subactivities, require a specific order in which communication proceeds, e.g. a greeting is normally followed by a greeting, a question by an answer, a statement by an acknowledgement or an agreement etc.

Contributions, Communicative Acts, Turn management and Feedback

Dialog proceeds by speaker and listener, through their utterances and gestures, making **contributions** to a successively shared content. Each contribution can consist of one or more communicative acts. **Communicative acts** are the smallest action units of communication. However, the relation between behavior and action is complex and is in general characterized by **multifunctionality,** Cf. Allwood (1978, 2000)., i.e. instances of communicative behavior (the contributions) can often express more than one communicative act and thus have more than one meaning or function. For example, if A in a worried voice says to B *It's slippery outside*, this utterance at the same

time expresses A's worry, A's belief about weather and could be an attempt by A to warn B. The multifunctionality of communicative contributions is related to the fact that we, in communicating, have many contextual relations and usually communicate multimodally, so that our behavior can express several types of information at the same time.

Both speaker and listener in dialog, through their contributions, make commitments and contract obligations. The sender contracts commitments concerning his/her grounding and sincerity and the listener is put under the obligation to evaluate and respond to what the speaker contributes.

In order to ensure that communication is going to be successful, i.e. lead to shared understanding, there is a system of **communicative feedback**. This system has evolved in order to allow dialog partners to check whether they are able and/or willing to continue communicating, perceive, understand and accept the information being communicated. The feedback system also allows the mainly sending party to get information about what emotions the recipient is experiencing (c.f. Allwood et al, 1992).

Most dialogs involve speakers taking turns holding the floor. There are therefore a number of mechanisms and processes to aid this process. We will refer to these mechanisms and processes as **turn management** (cf. Sacks et al, 1974). These routines are essential when we have two-way interactive communication. They are somewhat less important when we have one-way (or broadcasting) communication.

Two examples of Internet practices

In this section two examples of how the concepts introduced above can be used to describe internet practices is put forward. These are Wikipedia and e-mail. Each of the two phenomena are described as a social activity, using the concepts mentioned above, i.e. social activity (characterized by purpose, roles, artifacts/instruments, environment) and exchange type, turn taking and feedback.

1. User-driven content generation – the case of Wikipedia

Purpose: volunteers collaboratively create encyclopedic content at a web site. The idea behind Wikipedia is that someone wants to say something about a certain topic to others that care. The content in Wikipedia is continuously being built by contributors in patterns of proposals and counter-proposals

Roles: There are users taking two roles as well as bots (Internet robots): First of all, volunteers take the role of being *contributors* who bring up new subjects (articles) as well as adding/refining existing content by editing. These contributors are called *editors*. Contributors need to identify themselves. Secondly, there are *readers* of the content put forward on Wikipedia. There are also *bots* (Internet-robots) that help make sure that the content is appropriate. These act as regulators of the content. In the task of doing this articles might become subject to deletion by having them tagged. Contributors have the right to contribute with content, but it might be disregarded, changed or deleted.

A contribution is not connected to commitments and obligations since contributions might be disregarded, changed or deleted. The whole idea relies on whether a topic (described as an article) becomes interesting enough. The procedure raises many questions like: What mechanisms are there for getting enough attention to a new article? Which criteria need to be met for the creation of sustainable articles? What possibilities does an editor have to refine the content of an article? Are there articles that are "locked" for further contributions and what criteria determine when this happens? How is cumulative content-building assured if there are no contributors, editors, or readers obliged to read what has been said? Why does it work without having receivers with an obligation to read and comment? Are there blind spots in the content that are overlooked and how can the trustworthiness be assured for the readers of the content?

Artifacts/instruments: The major instruments enabling and restricting the interaction is electronic communication and the internet. There are also bots continuously scanning the content and thereby overlooking the interaction going on between different contributors. There are possibilities to track revisions as well as having watch lists. Users can design and implement their own bots. Another important instrument is storage capacity in the form of a distributed database to be accessed by Wikipedia as well as the functionality provided in Wikipedia as a web-application.

Environment: The articles in Wikipedia provide an environment for each other. The content of one article is related to other articles through key words. In order to achieve this, key words can be added to both new and old articles. In this way, article dependencies are created in a networked structure. This means that the already existing articles are

part of an environment where people are acting (and reacting) based on both new and old articles. From a wider perspective, Wikipedia is based on the idea of an open society, i.e. open collaboration, open access etc., in which it is possible for everyone to contribute. There are however norms and rules regulating who can contribute and what contributions that can count.

Exchange types, turn taking and feedback: Wikipedia provides a structured environment for communication regarding article content. Sequences of contributions are logged in historical records describing the evolution of the content. When it comes to turn management, Wikipedia is asynchronous, so interaction can be slow. Quick responses are, however, possible, e.g. a BOT finding out that the content is not appropriate to exist in Wikipedia. There are also facilities for managing several contributors acting on, i.e. editing, the same article simultaneously. Again our examination raises many questions like: When does content-building decline? What determines when responses are no longer necessary? How does the turn management system of Wikipedia handle this? How does the system keep track of which articles that are read and acted upon? What feedback is given at the different stages of development of an article?

2. Enabling written communication via e-Mail

Purpose: to enable written electronic communication.

Roles: There are two roles: A. The sender, the person/agent who sends the message and B. the recipient or the reader(s), the person(s)/agent(s) who read the message. If we analyze the two roles in terms of rights and obligation, often sender's rights correspond to reader's obligations. However, given the facts of spam and information overload, a general observation is that there are not many rights and obligations that can be generally associated with e-mail. However, some open issues are the following:

1) When does a sender have the right to have his/her message read and when is a recipient of e-mail obliged to read a received mail? This normative question corresponds to the more descriptive question of which of all sent messages are actually read. How do senders' priorities correspond to readers' priorities? Here are some factors that probably have an influence on what happens (i) interest of recipient (ii) kind of relationship between sender and recipient (family, friends, lovers, boss-employee, business, topic etc.). Some of these factors help create rights and obligations, others create expectations, but are perhaps not so easily relatable to norms.

2) What messages require a response and how long can the time be before the response is sent? Again, there seems to be no clear rules, but only tendencies based on the same factors as those mentioned in the comment to question 1.

3) What is the influence of information on the identity of the sender and recipient? E-mail normally requires overt identity of the sender and recipient. This places restrictions on what information can be put in the messages. Under special circumstances, identity can be hidden, e.g. spam. Hidden identity allows for greater freedom both in relation to what is expressed and in relation to how this information is received. Revealing or not revealing who else will get the same message will in some cases enable positive collective action but often simultaneously put restrictions on what responses become possible from the primary recipient(s). Because of the influence of information about the sender and recipients identity, most e-mail programs allow the sender a strategic use of disclosure of the recipient's identity. There is also the possibility of not revealing who the recipients are by using bcc or just simply forwarding a sent mail in retrospect. Thus, in e-mail, distinctions between primary (bona fide) recipients, other recipients, secret recipients and possibly also eaves droppers (persons/agents who read the mail without the sender being aware of this) have taken on a new importance.

In general, we might therefore conclude that e-mail is an activity that on the generic level is very open, but that specific topics, activities and relationships create expectations about readership and interactivity. In certain relationships and activities, these expectations will be related to rights and obligations connected to the roles of the sender and the recipient.

Artifacts/instruments: A third factor influencing an activity is the artifacts and instruments used in the activity. In this case, electronic communication and the internet are the major instruments enabling and restricting the interaction. In fact, one might say that it is these factors that have constituted e-mail as a specific type of activity. It is an essential condition for the existence of e-mail. This is shown in the continuous dependence of electronic written communication on new features made available in the programs that enable communication. Compare, for example, the use of smileys pictures and voice. The more easily combinable with written message, such features will be, the more they will probably be used.

Environment: The influence of the environment of e-mail overlaps to a great deal with the influence of the instruments mentioned above,(i.e. it is the internet which makes possible asynchronous or very rapid exchange between persons separated spatially all over Earth). Two of the features of this environment have been the rapid increase in messages information overflow and the speed of responses. Both of these have created a pressure toward informality, brevity and perhaps superficiality. It has also created a situation where many persons are forced to find principles for prioritizing or slowing down of communication. There is just too much mail all the time. The amount of mail and interchange is also having an effect on commitments and obligations, making them harder to determine and keep track of.

Many of the other concepts introduced above can also be used as a kind of checklist to understand the nature of e-mail exchange. Such concepts are "subactivities" and "exchange types", which can be used to do a sequential analysis of an e-mail exchange. Other concepts, like "communicative act" with "orientations", can also be used to make a closer content analysis of the messages in e-mail and how this content is dependent on being responsive to previous mail or evocative in relation to expected responses. Mail can also be analyzed from the point of view of its cognitive and emotive expressivity and what phenomena are referred to.

Exchange types, turn taking and feedback: Finally, e-mail can be looked at from the point of view of turn management and feedback. When it comes to turn management, e-mail is asynchronous, so interaction can be slow. It can also vary from consisting of very long messages to very short messages Overlap can exist in the sense that a contribution can arrive while another contribution is being written, but because of the restrictions on the medium, two incoming messages never overlap for the recipient. In two party exchange, the situation is fairly uncomplicated, but when a topic concerns several persons, keeping track of what is a response to which contribution becomes more complicated, especially since mail from other interchanges, unrelated to the given one can be interspersed in the interaction.

When it comes to "feedback", the needs of the sender are to find out whether the intended recipient has received the message, whether he/she has read/understood and how he/she reacts to the main evocative function of the message. Since, among other things, spam has made the various recipient related reactions very uncertain, some mail programs today have started to support the need for feedback by requiring that the sender be notified if the recipient has received the mail. However, much more thought could be given to how feedback processes could be integrated in e-mail systems.

Differences and similarities between the two cases

Below, we will use the same features as above to highlight some differences between the Wikipedia and e-mail. We start by first looking at the activity factors.

Purpose: Beyond enablement of asynchronous, electronic, written, interactive communication, e-mail has few restrictions. Wikipedia, on the other hand, is set up with a very specific purpose, i.e. the cooperative collective authorship of an encyclopedia. Interaction is possible but not primarily supported.

Roles: In e-mail, the two primary roles are sender and recipient. In the Wikipedia case, roles are more complicated, i.e. contributor to encyclopedia, regulator of contributions etc. The rights and obligations of these roles are more closely regulated than in e-mail. But again the factor of anonymity of the contribution probably creates more freedom of expression than would have been the case if the contributors had not been anonymous.

Artifacts/instruments: E-mail is enabled by the general features of electronic communication. Wikipedia is enabled by a much more specific communicative environment, including a well functioning and easily accessible database.

Environment: Both activities exist in the environment of the world wide web, which increasingly is characterized by such features as open access, open collaboration and open source. However, since Wikipedia is helping to create this environment these features are more closely related to the Wikipedia effort than to e-mail in general.

Exchange types, turn taking and feedback: Since Wikipedia is a much more structured environment for communication than e-mail in general is, exchange types, turn taking, and feedback are more regulated and adapted to the specific purpose of enabling the collective creation of a high quality encyclopedia.

Concluding remarks

In this paper, we have argued that pragmatic theory offers a number of concepts that could enrich web use. We have presented a number of these concepts and illustrated their use by looking more closely at the activities of e-mail and Wikipedia. We hope to have given some evidence that such a broadened view of what could be relevant for the "pragmatic web" will lead to better description and understanding/explanation of how electronic communication works and that this in turn will enable continued development of more pragmatically sensitive forms of communication. Some examples for further study that could be considered here are: What functionalities should a personal agent helping us to overcome information overload have? What forms of feedback connected with readership would be desirable? How can we build in different forms of quality assurance on the web?

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