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You have e-mail, what happens next? Tracking the eyes for genre



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ABSTRACT

This paper reports on an approach to the analysis of form (layout and formatting) during genre recognition recorded using eye tracking. The researchers focused on eight different types of e-mail, such as calls for papers, newsletters and spam, which were chosen to represent different genres. The study involved the collection of oculographic behavior data based on the scanpath duration and scanpath length based metric, to highlight the ways in which people view the features of genres. We found that genre analysis based on purpose and form (layout features, etc.) was an effective means of identifying the characteristics of these e-mails.

The research, carried out on a group of 24 participants, highlighted their interaction and interpretation of the e-mail texts and the visual cues or features perceived. In addition, the ocular strategies of scanning and skimming, they employed for the processing of the texts by block, genre and representation were evaluated.

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1. Introduction

Documents or texts can be processed and differentiated from each other in many ways. Sometimes they are written in different dialects (forms of language), styles (Medieval, Shakespearean, etc.), levels (children's and adults' books), topics (mathematics or creationism versus evolution), or different purpose, sometimes referred to as substance, (Ordinance survey, Atlas). In the context of this work, form (readily observable features, such as formatting and structure c.f. Fig. 2) and purpose (communicative purpose) are considered during the identification of the e-mail genre but the focus is mainly on the structural characteristics. For example, in the summons shown in Fig. 1, the information has been displayed using particular formatting devices, such as emboldened text (**Summons**), for attention-getting effects in a particular way. It has been designed for the specific purpose of drawing the attention of an individual to the fact that his/her presence is required for a particular reason in a particular location on a particular date. This work will examine how this attention is achieved. This Information Retrieval & Seeking (IR & S) study employs eye-tracking technology to capture and record human ocular interactions with the layout features and formatting devices contained within documents.

This was carried out by analyzing the layout and structure of socially constructed texts of "organizational communication" (Yates & Orlikowski, 1992) amongst people in a particular workplace or in a "community of practice" (CoP) as

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described by Wenger (1999), where, genre, in a textual sense, is sometimes defined as a group of texts or documents that share a communicative purpose, as determined by the discourse community which produces and/or reads them (Swales, 1990). As Yates and Orlikowski (1992) stated: “In structural terms, genres are social institutions that are produced, reproduced, or modified when human agents draw on genre rules to engage in organizational communication”. Collins, Mulholland, and Watt (2001) explained that what the community sees as important will be reflected in the implicit structures found in the objects they create and share and as Watt (2009, chap. 8) has observed: “convergence on a set of standardized document structures is both natural and helpful”. These objects are genres that occur in the web; CoPs are utilized, but we need to look at the ways in which these digital communications in these communities are structured and the types of features of which they consist. For further discussion on CoP c.f. Wenger (1998, 1999), Wenger and Snyder (2000), and Wenger (2000). Layout in organizational communities causes people to focus perceptually on key parts of the text (Schmid & Baccino, 2002) and our empirical research has previously demonstrated that people use layout and other related cues to focus on key parts of the text (Clark, 2008; Clark, Ruthven, & Holt, 2008; Clark, Ruthven, & Holt, 2010; Clark, Ruthven, Holt, & Song, 2012). The reader is able to perceive the meaning through interaction with the cues which exist on the outside and inside of the “frame” (Frow, 2006, chap. 5) – a term that Frow uses synonymously with genre. These structural cues (Fig. 2) in the document layout can take the form of lists, centered titles, emboldened texts, etc. (Yates & Orlikowski, 1992).

The experimental work that follows includes an analysis that utilizes scanpaths to look at manually or human-developed types of digital e-mail genres. Table 1 shows the typical top-level genre structure of an e-mail: header (date, from, to, subject) and the message body, but some e-mails have more explicit structures using formatting devices in just the message body and solely these were used in our experiment. Eye tracking enables us to collect data to ascertain whether there is evidence of particular types of perception, for example, Gestaltism (Wertheimer, Koffka and Köhler), Ecological (Gibson) or Con-

Fig. 1. The diagram shows a textual genre i.e., a summons, which has a specific purpose and form.

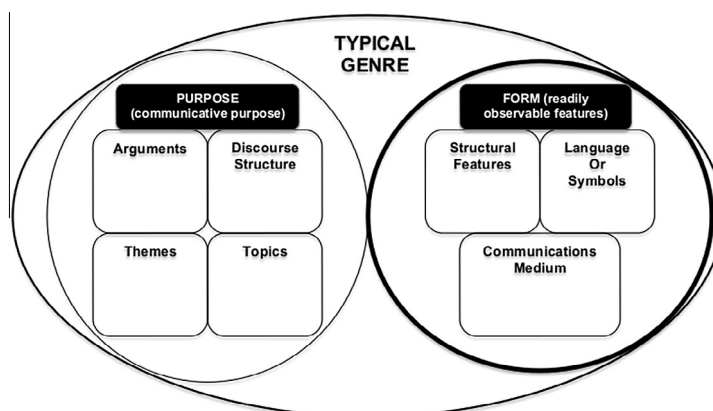


Fig. 2. Diagram showing Yates and Orlikowski (1992, p. 15) definition of a genre's form and Purpose.

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