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Mixing the Library – Information Interaction and the Disc Jockey

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Abstract

A Model of information interaction, based on the activities of Disc Jockeys (DJs) provides a valuable conceptual framework for working in large digital collections. Their processes and workflow demonstrate creative information behaviors that are transferable to other data-representations; as such the model represents a new take on read/write systems of interaction for creative development in archives of all kinds, and provides an platform for learning and authoring.

Keywords: Mixing; Selecting; Creativity; Post-digital Library; Disc Jockey; DJ; Information Behavior; Archive; Publication Workflow; Learning;

Introduction

The human-computer interaction of the DJ working with digital media, incorporates information retrieval (collecting, organization, learning) and creative production (innovation, discovery, publication/presentation).

Central to this process is the creation and organization of a local digital collection, and it's association with personal memory that allows the DJ to interact in a creative *flow* with information.

The DJ's read/write interaction is facilitated by two key interface requirements: A multi-channel mixing desk that allows two or more information sources to be presented and combined; and a writable representation of (a subset of) the digital collection. The dual aspect of mixing desk and writeable folder structure facilitate two key information behaviors that allow personal expression and innovation to enter the process: *mixing* and *selecting* (interaction with content and context). These behaviors are sufficient to generate newness from sampled material.

The DJ's model of information interaction includes retrieval, learning, development, and presentation. In other words a complete publication workflow that reuses stored content throughout.

Information and Creativity

A number of models have been developed that analyze the human-computer relationship in information retrieval; for example Makri (2007), Ingwersen (1996), Saracevic (1996), Belkin (1993). With the exception of Makri, these models do not describe creative information behaviours, occuring at the moment of innovation. Makri, who refines an earlier model by Ellis (1989) does do this by describing *Editing and Collating*, as a behaviour in which *cut and paste* techniques are used by academic lawyers to generate new texts.

A similar gap is identified in creativity literature, between information use and creative development. Bawden discusses:

"The literature of creativity (...) is vast, but relatively little of it refers explicitly to information gathering and processing. Such mention as is to be found is often rather negative, suggesting that information provision through formal channels is of little importance for creative advances." (Bawden 1986)

In DJ practice, reuse of digital content generates unique sets of repurposed information, which are presented live in social environments. This activity offers a model of interaction, in which information flow and the process of creative development can be observed. The model describes a system for supporting and stimulating creative innovation with information.
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Practice-led development

An Autoethnographic diary study, interviews and practice-led interface development were used to analyse the practice of a DJ.

The diary study conducted during a ten week period of DJ practice, was used to report on daily activities, in multiple settings and venues (radio, clubs, festivals, bars, studio). The aim of self-study was to produce an intimate portrait of DJ activities, to gain insight into processes that would be difficult to gather through social ethnography. For example, developing organisational structure of the personal collection over time, use of metadata notation live, association of memory to performance, and a complete overview of the process from retrieval to play.

The study resulted in a ninety page handwritten journal, which portrayed sites of activity and information behaviors at those sites. This content was analysed by building a simple menu retrieval system for accessing markup references within the text (Norton 2012). This practice-led step; to transform a linear text into a folder structure of categorized references, mimics a vital aspect of the DJ's model of interaction: *visual presence of (a part of) the digital collection during play*. Changing a linear text into a collection of references enables direct insite into categories of information within the text, and it allowed alternate readings to be synthesized across the categories and groupings. Sections of text could be viewed in new contexts, and readings built in a *flow* that engaged in structure as well as content. The collection, in the DJ's model of information interaction is a site for learning and developing material, and it is a tool for creative development by facilitating comparisons and new combinations of material. Bakhtin discusses the value of juxtaposing ideas and utterances:

"Our thought itself -- philosophical, scientific, artistic -- is born and shaped in the process of interaction and struggle with others' thought." (Bakhtin 1986)

So, this mechanical recontextualization in an interface encourages *doing* as well as reading. The topic of the DJ, their acts of mixing and sequencing information, is examined in the diary study text by reading, and in the diary study interface by action. Bourdieu explains the value of this when discussing the logic of practical investigation:

"Though the professional dealers in logos want practice to express something that can be expressed in discourse, preferably logical, the logic of practice is made to do without concepts and can be grasped only in action." (Bourdieu 1990)

The Personal Digital Collection

DJ collections and systems of interaction vary in detail, however four basic category labels and folder types can be observed: Classical (recognized genres such as cumbia, electro, dub); Idiosyncratic (relating to personal feelings.)*;* Dated Subfolder (latest acquisitions, past live sets); and Chaos (disorganization). Digital folder organization aims at producing valuable groupings of material that make sense as a set, and are sufficiently small to be browsable in a scrolling window panel .

The model in *fig.1* describes information flow, sites, and behaviours. Information enters the personal digital collection from source and organizational structures are developed, which aim to support "creative flow" (Csikszentmihalyi 1997). In flow, the visual appearance of the collection in association with personal memory facilitate retrieval in the moment of thought, in practice sessions and live, when improvised response to unpredictable environments is frequently obligatory. The ability to respond to idea with data representations allows the system to support and stimulate creativity.

DJs continually engage in their collections, gathering new material, deleting, and organizing. The iterative engagement promotes learning and the develops the memory necessary for the performative use of information in public space.
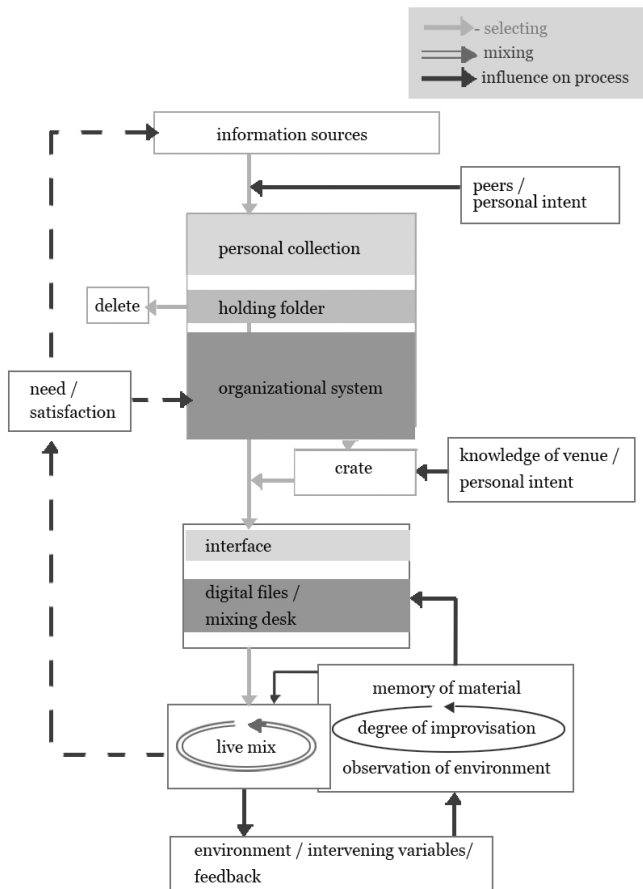

fig.1 **DJ's Model of Information Interaction**

Creative Information Behaviors

1. *Selecting* is a recurrent behaviour in the model. It occurs when collecting; organizing information into groups; building a "crate," (a small selection in preparation for a gig); and in the live act. Selecting reduces the volume of information and is the means by which unique threads of material are generated. It is creative. As conceptual artist John Baldessari states :

   "Should I do this rather than that? Should I choose this image over that one? That's it at its heart - the artist's role is about selection." (Aitken 2006)

2. *Mixing* is the act of combining and linking tracks. Mixing generates new information by sampling and referencing different elements from the collection. Mixing brings together previously disparate material to produce connections and contextual associations. The importance of mixing is discussed by library scientist Don Swanson, who states:

   "The significance of the "information explosion" […] may lie not in an explosion of quantity per se, but in an incalculably greater combinatorial explosion of unnoticed and unintended logical connections" (Swanson 1996).

Mixing, similar to Makri's *Editing and Collating*, is a critical behavior in the DJ process. It allows the DJ personal expression within a process that reuses stored content. Mixing discovers and presents new connections and links within the archive. Unique narratives are built by selecting stored content and building the links; mixing.

The Interface

Key interface elements that facilitate mixing and selecting are:

- Multi-channel mixer – which enables two or more articles to be presented and combined if needed;
- Continual visual presence of (a part of) the collection – to enable interaction with context and in the flow retrieval.

Read/Write Interaction

Pallasmaa (2007) suggests that in order to adapt to the challenges of a burgeoning information environment we need to develop methods of interacting in information that are derived from our experience in the immersive environment of sound.

The DJ provides a conceptual framework for creative, and communicative interaction with information. The read/write process is capable of improvised information exchange, which is responsive to unpredictable environments. Their use of the personal digital collection is a platform for interacting with information resources, and a tool for developing and presenting newly authored narratives from the stored content.

The DJ interface works simultaneously with an original article *and* with it's context in the collection by selecting, mixing. These two behaviors are sufficient develop unique threads from the digital collection.

Future work will explore the DJ's model of interaction as a platform for access and development of public digital collections held in libraries, as a research tool for literature search, and creative development, and communication/publication; and as a system for education and learning (imagine a classroom of information DJs exploring, mixing, annotating and sharing information collections).

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