

Awt (Associative writing tool): Supporting writing process with a ZigZag based writing tool – work in progress

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ABSTRACT

In this paper a sketch of a tool for supporting writing process is discussed as an example of an application using GZigZag framework. GZigZag as well as Ted Nelson's ZigZag metastucture are introduced in a nutshell.

KEYWORDS: supporting writing process, ZigZag metastucture, GZigZag, spatial hypertext, set based hypermedia

INTRODUCTION: GZIGZAG

GZigZag [6] is a free [1] implementation of Ted Nelson's ZigZag design [8, 9, 10].

In ZigZag, all data is represented as *cells* and connections between cells along *dimensions*. Dimensions being orthogonal to each other makes it possible for one cell to be part in several substructures. In current implementation, cells may contain references to extracts from permanent media scroll. This feature guarantees unique identifiers for pieces of media (*spans*) making referential Xanadu media model [11] possible in GZigZag. In practice this means that copy&paste operation, for example, causes an implicit link (*transclusion*) between the contents, so that they can be easily detected and shown.

SUPPORTING WRITING PROCESS

Traditional model of writing process is *prewriting* → *writing* → *rewriting*. Conventional wordprocessing programs support best this oversimplified (end product oriented) version of writing process. However, writing process has proved to be far more complicated than prewriting-writing-rewriting procedure can capture [5].

A fruitful way to consider writing is as an open-ended design task [12], where designers (writers) primary intention is not to make end product (linear document) but representations

of it (externalize one's thoughts). It is often reasonable to transfer the original design problem from actual domain to a more appropriate domain (*virtual world*) in order to bypass some constraints in the 'real' domain and make experiments easier [14]. Hypertext systems could provide this kind of virtual world for external representations in cognitively complex tasks [2, 3] such as writing [12].

Spatial hypertext widens conventional node-link hypertext model by taking advantage of spatial proximity and visual cues [4], and is well suited to information intensive activities such as analysis, design and evaluation where domain structure is not well understood. ART (Amplifying Representational Talkback) [7] is an example of a tool that uses 2D spatial positioning enabling writer to externalize ideas in the early stages of writing.

ASSOCIATIVE WRITING TOOL

The Awt (Associative writing tool) concept introduced here support spatial positioning of textual artefacts, organizing artefacts in different sets (layers), explicit links between artefacts and implicit Xanadu links between contents of the artefacts. The implementation of Awt is currently work-in-progress; it will be included in gzigzag framework as a module in the near future.

The entities of Awt information artefacts are derived from their connections in specific dimensions. Thus, a cell representing artefact can be interpreted as a set as well as an atomary information container depending on which dimensions are taken into consideration. The essential dimensions are the following (see also Fig. 1)

d.layerset This connects set (or layer) cell and member cells via relation cells

d.member The last cell (positive end) in this rank is the member of all sets connected via link cells in this rank

d.src Headcell (negative end) of this rank is the source cell for link cells connected along this rank

d.trg Positive end cell of this rank is the target of all link cells along this rank

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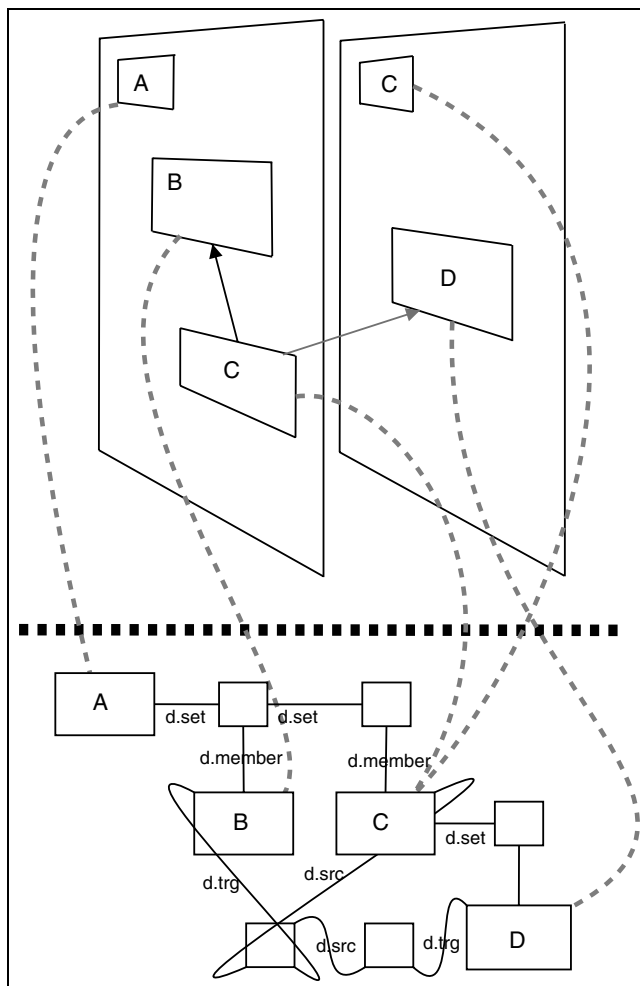


Figure 1: Screenshots of two layer views and underlying zigzag-structure (only link and set related dimensions shown)

In Fig.1 there is the ZigZag structure (or model) shown below the dashed line. On the top there are two screenshots of views, the left one has artefact A as layer artefact and the right one has C.

Notice the different roles of artefact C in the views (C is a note artefact in the right view, but a layer artefact in the left one having D as a member).

Besides information of relations (link and set related), each artefact has spatial data as well as the content data stored in related substructures.

AWT AND SET BASED HYPERMEDIA

In set based hypermedia model [13], information nodes are not explicitly linked together as they are in graph-based hypermedia, but are implicitly related to each other via sets, i.e. by being members of the same set(s). According to Parunak [13] set based hypermedia suits particularly well for taxonomic reasoning. Awt can be easily extended to support set based hypermedia browsing operations, because it does not

require any changes in the underlying zigzag model, (see Fig. 1).

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