An annotation model for Personal Information Management

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ABSTRACT

Personal information management evokes a particular challenge of freedom. Information that is personal should not be limited by dictates of don'ts and dos. The information must not be limited by format, type, medium and other specifications. Most of the annotation proposals for information management will fail when it comes to personal information management. We believe that the problem of managing information that is not restricted by any form of specifications can be resolved with the use of an annotation model AMIE-PIM. Because annotation is an additional interpretative or evaluative comment on information, it can be structured to record personal information. In our approach, we propose an annotation model that will store information about all possible type of information in all forms of media. In the model, we are concern with information on the type of information we are annotating, the medium, time of creation and the detailed commentaries on the document involved. The creator of the annotation is assumed to be the user of the system associated.

Categories and Subject Descriptors

Information management

General terms

Annotation, document, modelling,

Keywords

Information management, annotation, AMIE-PIM, document

1. INTRODUCTION

Annotation and annotation tools have been adapted to information retrieval, information exchange and collaborative work; because they allow individuals to perform in and out of context interpretation of document contents [5]. We believe that some of the findings and use of annotation can be modified for personal information management. What then is an annotation?

Different definitions have been given as to the meaning of annotation. The simplest forms are as follows:

"An annotation is graphical or textual information attached to a document and often placed within this document". -E. DESMONTILS et al [1]

"An explanation that accompanies a text" –Petit Robert Dictionary

"Annotations are comments, notes, explanations, or other types of external remarks that can be attached to a Web document or a selected part of the document" (Workgroup on annotation on W3C)

To us, the word annotation has two connotations. It is an object as well as an action. For this study, annotation is defined as the act of interpreting an object, wherein the interpreter can either be the producer of the object or another person. This interpretation is in written, oral or graphic form usually attached to the object interpreted. Simply stated, it is an act of interpreting an informative object expressed on the object. For simplicity we will assume the object being interpreted here as a document. But what is a document?

A document is defined as a trace of human activities [PRI99]. A trace of human activities can include archaeological artefacts, buildings, cinema, books and monuments. In another word, an archaeological artefact is a document as much as a building or a paper containing information. With this definition, we can include all the possible types of personal information like email, calendar, to-do-list, meeting plan, minute of meetings, travel plan, birthday programme, religious programmes, inventions etc.

In terms of details (granularity) of document for annotation can include various entities like punctuations, words, images, artifacts terminologies, phrases, sentences, passages, collection of homogeneous documents, a collection of heterogeneous documents. We consider a collection of articles as a collection of homogeneous documents. This is because we can consider each article separately each with related uniform properties. A multimedia document or a building can be seen as a collection of heterogeneous documents in the sense that individual member that form this document differs in their properties and features. An heterogeneous document can include cultural or historic items which can be viewed from various perspectives.

It is clear from this that whatever we can see as containing human activity can be annotated with varying degree of granularity and typology.

2. AMIE-PIM: AN ANNOTATION MODEL

AMIE (Annotation model for information exchange - personal information management) is conceived to provide a generalized guideline for use of annotation in personal information management (PIM).

In order to arrive at our model, we first study the state of the art concerning reasons for annotating, the application contexts where annotation is employed and finally the existing annotating tools. Our aim is to derive an annotation model from the existing proposals as applied to PIM context.

From our study of the literature on annotation [2][3][4][6][7], we were able to identify the following reasons why annotations are performed:

- Add an explanation to a document section (definitions, examples, references, etc.)
- Provides a means of evaluating a document (relevance of a document by providing a global point of view or a detailed evaluation criteria)
- Associate specific interpretation to a section of a document or to the document in its entirety, by giving additional attribute to the document with an associated value

It should be noted that annotation does not result in the modification of the initial document. It may however constitute a new document for the reader. This point is essential in the sense that the author's copyright is protected.

Annotations are performed by users who have the intention of storing their point of view for future reuse. Among the users (or readers) are students, researchers, lecturers, or the general public. As mentioned above, the annotation technique is of particular importance in PIM context since individuals are constantly confronted with the interpretation or evaluation of document contents.

Structure of AMIE-PIM
The following has been considered in our annotation model.
- ♦ Annotator *(the person making the annotation)*
  - ANNOTATOR REFERENCE
  - SOCIAL IDENTITY
  - NAME
  - ADDRESS
  - REGION
  - COUNTRY
  - EMAIL
- ♦ Context *(context of annotation)*
  - MODE *(new idea or follow-up of previous idea}*
  - CONTEXT REFERENCE *(new reference for new idea or reference for previous idea)*
- ♦ Document *(document can be anything that is associated to human activities)*
  - CLASS *(geologic, archaeological, social, religious, scientific, historic, human, nature, abstract, fiction,)*
  - SUBCLASS
  - USAGE (of document)
  - LOCATION (geographical location of document, if *possible in longitude and latitude)*
  - MEDIUM (container of information like paper, wood, glass, water, electronic etc)
  - DATE of CONTACT (date when document was examined)
  - DOCUMENT TITLE
  - DESCRIPTORS
  - KEY WORDS
  - AUTHORS
  - DATE of PUBLICATION *(or date of creation)*

- ♦ Annotation
  - OBJECT REFERENCE (*is the reference that will enables future use*)
  - ANNOTATION REFERENCE
  - TIME (Date of Annotation)
  - ANNOTATION TEXT (free text that the user uses to make his own evaluation / analysis)

- – SECTION ANNOTATED (part, entire, form of document, part of document, title etc.)
- – WHY ANNOTATING (objective of annotation)?
  - » recapitulation
  - » evaluation
  - » summary
  - » correction
  - » raise a point,
  - » classification
  - » restructuring,
  - » differentiating,
  - » for information,
  - » answer to a question,
  - » illustration
  - » extension of document,
  - » clarify ambiguity

We can further subdivide these global parameters in the annotation model to specific cases. For example, an annotation is made for correctional purpose. We can look at this correction as grammatical, context, concept or semantic.

3. APPLICATION
Using AMIE-PIM as a model for information capturing for personal use will enable user to store personalized annotation on all sort of possible document sources. Annotation stored can now be seen as another information source that can give an overview of different kinds of objects (defined as document). The beauty of this model is that, analysis can be performed on the annotations stored on documents. For example, we may be interested in the frequency of documents CLASSes to see what types of documents are of more interest to the user. It may also be that we are interested in the different kinds of medium used in documentation as reflected by the user. Inter-field analysis like document CLASS with annotation OBJECTIVE may reveal why a particular CLASS of document is of interest. It may be interesting to note that the evolution of user's perception can be seen by analyzing his annotation on a single CLASS of object with TIME.

4. CONCLUSION
Applying AMIE-PIM model does not only provide prospect in personal information storing from divergent information sources, it also provides a mean of evaluating stored personal information and personal interest.

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