

AMIEDoT: An annotation model for document tracking and recommendation service

ROBERT Charles Abiodun
LORIA- Campus Scientifique, B. P. 239, 54506
Vandoeuvre-Lès-Nancy, France
Tel : +33383593000
Email : abiodun-charles.robert@loria.fr

ABSTRACT

The primary objective of document annotation in whatever form, manual or electronic is to allow those who may not have control to original document to provide personal view on information source. Beyond providing personal assessment to original information sources, we are looking at a situation where annotation made can be used as additional source of information for document tracking and recommendation service. Most of the annotation tools existing today were conceived for their independent use with no reference to the creator of the annotation. We propose AMIEDoT (Annotation Model for Information Exchange and Document Tracking) an annotation model that can assist in document tracking and recommendation service. The model is based on three parameters in the acts of annotation. We believe that introducing document parameters, time and the parameters of the creator of annotation into an annotation process can be a dependable source to know, who used a document, when a document was used and for what a document was used for. Beyond document tracking, our model can be used in not only for selective dissemination of information but for recommendation services. AMIEDoT can also be used for information sharing and information reuse.

Categories and subject descriptors

Information systems design, Document tracking, routing, recommenders, Information retrieval, filtering, and extraction

Keywords

Information research, model, document, user, time, annotation

General terms

Management, design, documentation

1. Introduction

Annotation has been a very useful tool in transmitting ideas from man to man. Not only that an annotation convey the thoughts of an initial user of a document to another user of the same document, it testify to the use of that document. The importance of annotation as a tool in information management can be seen with its popularity. Many text processors like Microsoft word, Adobe Acrobat and the like integrate features that enable users to annotate electronic documents. We

believe that electronic annotation made by different users should not only be restricted to interpretation of the content of document(s); annotation tools can be designed to assist in recommendation service, information management and document tracking. It was on this basis that an annotation model AMIE was conceived.

2. Background

Annotation can be perceived from different perspectives and can assume different forms but for our study, we will define it as an action and an entity. From the perspective of an action, annotation can be defined as an act of interpreting a document. The interpretation is of a specific context and is expressed on the document. The interpretation can be made by the producer of the document or another person. It should be noted that when a document author makes annotations on his own document, he is seen at that moment as a reader of that document and not an author. Considering annotation as an entity, we define it as written, oral or graphic information usually attached to a host document meant to attest to the use of a document, for evaluation or interpretation of a document. Our study here we dwell on these two definitions of annotation interchangeably.

Electronic annotation can not take place until after the document has been made available to its audience. Every annotation on incomplete document is considered as part of the initial document. This is important as we apply annotation to published work. Annotations will normally take a different form and different look as compared to the original document. The difference in look may be noticeable in form of character used, font, style, color or additional signs and images that is not characteristic of the original document. The common intercept between annotation and the original document is the medium of transmission.

3. Constituents of an annotation

An annotation is essentially consisting of three main components; the annotator (person making the annotation), the document being annotated and the resulting annotation itself. We will not give attention to the annotator in this study because our concern here is not on user modeling or profiling. A document is defined in a general form as a trace of human activities [15]. A trace of human activities can include archaeological artifacts, buildings, cinema, books and monuments. In another word, an archaeological artifact is a

document as much as a building. Though our finding in most of the cases is applicable to documents of various types, attention is given to written documents.

A document essentially contain information meant for interpretation (read, viewed, heard, perceived) by a certain group of people. The audience may or may not be pre-determined. It is therefore imperative that a document be made available to its potential audience. A document itself may be in oral, graphics or text form. It may be tangible or intangible.

Annotation can not take place until after the document has been completed. An annotation is not a property of a document. For instance, a plate number of a vehicle is not an annotation though it is attached to a vehicle. This is because, we consider a plate number as a property of a vehicle. A vehicle is a complete entity with a plate number. Annotations will normally take a different form and look with respect to the original document. The different in look may be noticeable in form of character used, font, style, color or additional signs and images that do not form part of the original document.

From our study of the literature on annotation, 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 could be used as a medium of information sharing,
- It may serve as a means of sieving information.
- Means of interpretation of document,
- It is a means of creating a forum for independent view of document,
- Facilitate critical reasoning,
- Permit the user to construct a personal representation of the document,
- They can attest to a witness of personal commitment by a reader to a document ,
- Permit monitoring trace of document use,

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.

According to Bringay et al [5], annotation helps in the legibility of information. Annotation may at one time make the document legible but may also hinder the legibility of the same document at another time. It does not necessarily aid in making the information clear but

gives a specific interpretation to the information contained therein.

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. Annotations can be made manually. For example, stickers or post-it can be scotched at specific pages of a book. Specific colours may be used to underline a section of a document in order to specify the importance of that section. It could also be in form of underlining. Text grouping with the use of brackets or braces is sometimes used to annotate. It may also be in form of passage or paragraph numbering.

With electronic software, it is possible to create manual annotations and also store them for future and more elaborate use.

A person making an annotation has an objective in mind. He is making annotation to achieve among others reasons: He could be describing (summarizing) or evaluating (analyzing) an informative resources based on standard criteria.

4. Existing models

The basic objective of annotation conception is to provide for additional set of information that was not specified by the initial author of the document. This information is saved to the original document and referenced by a link. The goal of annotation is to allow addition to existing resources by individuals who normally will not have direct control on the original document.

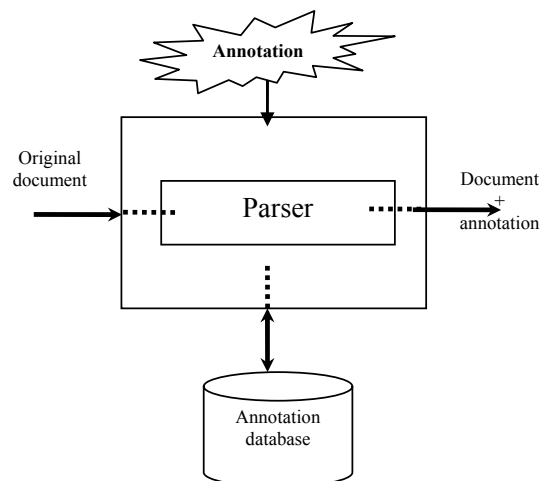


Figure 1: Architecture of generalized annotation system