neonion - combining human and machine intelligence
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Reading as Scholarly Knowledge Activity

Reading is the most prevalent knowledge activity in scholarship (cp. [1]). Active or close reading, as it is commonly known, combines critical thinking with learning [2] and involves the annotation of documents [3] by highlighting, underlining text or adding comments [4]. Since scholars increasingly read online (called “hyper reading” [5]), they also need to annotate these digital resources. Personal reading and the accompanying manual annotation is very time-consuming or, at worst, impossible given all the text resources that are now available. As a result, machine reading, “the automatic, unsupervised understanding” [6] is increasingly used to pre-process texts. Each of these forms of reading (close, hyper, or machine reading) provides scholars with different insights that complement each other [7].

Semantic Annotation

Manual Annotation Process

1. Reading

2. Annotating

3. Referencing

4. Extending

Automatic Annotation Process

A mixed-initiative annotation concept is implemented that “explicitly support an efficient, natural interleaving of contribution by users and automated services” [8].

Users in our setting have no previous experience in using an automated annotation service. As a conceptual starting point, three contexts for concept level annotations are specified that describe when the algorithm can take initiative and react to the user. For each context, it is defined how the software should notify the user about the possible algorithmic support offered.

Collaborative Annotations

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References