

Links - A Literature Visualisation and Analysis Tool

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The aim of this dissertation is to demonstrate the creation of a literature visualisation and analysis tool that can augment the study of literature, while still remaining open and intuitive in its presentation of features and data. The tool is designed to work on an iPad in an effort to tap into the growing mobile market.

The central motivation of the tool, named *Links*, is to enable knowledge discovery by gathering interesting quantitative data about the text and visualising it to the user in such a way that it highlights thought-provoking sections. From exploration of the data, the user should gain a deeper understanding of the underlying relationships, themes, and writing styles in the text, which they may then use in their own studies.

The technical design and implementation outlined in this dissertation explains how the data metrics needed to make this possible may be gathered. Data is gathered through the use of natural language processing, in which grammatical tagging is used to apply lexical categories to each word.

A focus is placed on analysing word frequency, relationships, and sentiment within the text. Additionally, the design places a particular emphasis on creating a user-friendly interface that enables exploration, filtering, and annotation of the underlying data, by following recommendations from previous research. The resulting design is compared and contrasted to similar analysis tools to evaluate the performance of its design.

A qualitative evaluation of the tool shows that the data produced by *Links* meets the aim of supporting knowledge discovery within literature. In particular, the data metrics that are gathered can reliably highlight the most important relationships in a text, and provide an overview of the sentiment as the piece progresses.