CoDiS Lab

ISDS

An exploratory and interactive prototype called Infret was developed to help students better understand concepts of information retrieval in an information search and retrieval (ISR) class enabled by motivational active learning (MAL). Infret was built using modern web technologies such as Angular and Node.js and based on the findings of a literature survey and the evaluation of a previously built Java-based tool. The

Infret prototype enabled students to explore various text statistics from one of the selected text document collections visually and interactively. It was used as part of a class activity by a group of students who were attending the ISR course at TU Graz for a semester. At the end of the activity, the students filled out an evaluation survey. Findings indicate the Infret prototype has above average usability and sparked mostly positive emotions for students. Additionally, multiple improvement possibilities were identified. The aforementioned findings were used to improve and expand Infret.

The second iteration of Infret supported various term weighting concepts, a new heatmap visualisation and many other improvements. The second version of Infret was used as part of a class activity by a novice group of students and an experienced group with prior knowledge in IR. The students from both groups filled out an anonymous survey after completing the activities. Findings indicate the second version of Infret helped both groups of students understand various text statistics and term weighting concepts and sparked the novice students curiosity. The usability score given by experienced students was lower than the one received for the Infret prototype, however, it was still higher than the average usability. On the other hand, the usability estimated by novice students was lower than the average. Additionally, even though the negative emotions were more intense than for the Infret prototype

the second version of Infret still mainly sparked positive emotions. These and many other findings provide room for further improvements and feature set expansions for future iterations of Infret.