

Hypertext has proven its value in many applications, including electronic learning. Traditional paper textbooks present material in a single order, which is supposedly the best order for studying. In a hypertext, cross-references or links allow more freedom to navigate the material. An adaptive hypertext takes information about the reader into account when presenting the material including the cross-references. Actions taken by the reader (eg. following a link) can update the information on the reader, hence change the adaptation.

Over the years many different adaptive hypermedia systems have been developed. These systems vary in the way the user is modelled and how that can effect the actual presentation. They are, for the most part, able to perform particular types of adaptation well, but are not compatible with each other. Furthermore, when compared to a traditional web server, an adaptive web server has more work to do. This has often led to performance issues, making the adoption of adaptive hypertext less likely.

GALE (Generic Adaptation Language and Engine) is the result of the ongoing research effort to create an efficient generic adaptive hypermedia system (AHS) that is simple to use yet powerful in expressing adaptation. It is able to simulate most of the adaptation found in other AHS. The performance of GALE allows for a browsing experience similar to that of a normal web server. Adaptive behavior can be inherited allowing different types of authors, both beginner and advanced, to use adaptivity. The modular structure of GALE allows extensions and integration with other systems.

This thesis describes the historical background of GALE and motivates its design decisions. It shows how lessons learned from its predecessor AHA! have been implemented. The current state of GALE is described to demonstrate its expressive power.