

# MaSe: Create Your Own Mash-Up Search Interface

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## EXTENDED ABSTRACT

MaSe provides a sandbox environment for high school students to create their own personalised search interface. It has been designed with two major goals in mind: (1) as a hands-on tutorial for school children, to excite them about programming and computing science through the development of a practical application, and (2) to enable children to design and create their own search interface without extensive programming knowledge or prior experience. Consequently, MaSe provides a way to ascertain what children would like from a search engine interface in an exploratory and creative way as they can create a working prototype. This approach contrasts with previous work on exploring children's requirements of IR systems which attempts to directly elicit user needs through more traditional methods (i.e. surveys, interviews, focus groups, etc) [2, 3]. However, we have attempted to incorporate the design guidelines for children as identified by [2, 3] into MaSe, where: we make use of bright colours, large text fonts, spell checking and the use of icons to represent search services, as well as including a thematic experience as suggested by [2], with the use of a puppy avatar and puppy dog footprints.

MaSe<sup>1</sup> is built using the PuppyIR framework [1], which utilises a pipe and filter architecture. The framework provides a number of query and document processing components to filter and modify the content (i.e. to filter out inappropriate words, expand queries, simplify snippets and more) and has connections to a wide range of back end search services such as Bing, YouTube, Twitter, Flickr, etc. During the tutorial, students connect these components together to create various search services, which teaches them about: (1) how information flows through a pipe and filter architecture, and (2) how they can configure different search services and their associated pipelines for their search interface. Students can then select and customise the set of search services that they would like within their search interface. As discussed

<sup>1</sup>See <http://puppyir.sourceforge.net> for the list of the underlying technologies used and the tutorial documentation.

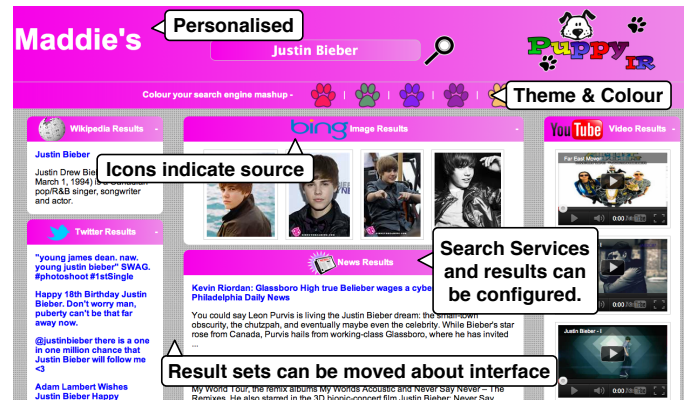


Figure 1: Maddie's search interface using MaSe.

in [2, 3], it is theorised that by allowing children to personalise their own search interface this will lead to a greater sense of ownership over their design and a greater sense of accomplishment. This should not only result in an enjoyable and positive experience of programming, but also provide an engaging experience of designing search interfaces. To this end, the interface can be easily customised. MaSe allows for the selection of a colour scheme, naming of the search engine, custom arrangement of search results using drag and drop, and the customisation of search services (by creating and customising the PuppyIR components in the code so the type of results, number of results and search services to be presented can be manipulated).

To date we have evaluated MaSe with approximately 100 university students, where even students with minimal programming experience were able to successfully complete the tutorial in about an hour with minimal assistance. Overall, their feedback was positive and that they enjoyed creating their own search interface. Next we plan to conduct studies with high school students to see what kinds of interfaces that they would like and what they design.

## REFERENCES

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