Cluster-Based Search over Online Support Resources for a Visual Programming Language

Chris Scaffidi\textsuperscript{1}, Chris Chambers\textsuperscript{2}

\textsuperscript{1}School of Electrical Engineering and Computer Science, Oregon State University, Corvallis, OR 97330, USA
cscaffid@eecs.oregonstate.edu

\textsuperscript{2}National Instruments Austin, TX, 78759, USA
chris.chambers@ni.com

\textbf{Abstract:} Engineers and scientists increasingly do programming for data acquisition, analysis and other activities. They often turn to online support resources to learn about programming and about specific programming tools. Unfortunately, finding resources can be difficult with existing systems, which present search results that are sorted but otherwise disorganized. Therefore, we have developed a new system that searches over forum posts, tutorials, whitepapers, and other online support resources, with an emphasis on organizing search results into clusters. This search engine, which we prototyped for one programming environment popular with engineers and scientists (LabVIEW), automatically sorts these clusters of search results based on relevance to a user query, and it automatically generates names for clusters to succinctly summarize their content. An empirical user evaluation confirmed the system successfully sorted clusters in order of relevance and selected accurate labels for naming each cluster.

\textbf{Key-words:} engineers; scientists; programming; online support; search engine

\textsuperscript{*}Corresponding author
E-Mail: cscaffid@eecs.oregonstate.edu (Dr. Chris Scaffidi)