Versatile Size- l Object Summariesfor Relational Keyword Search

Abstract:

The Object Summary (OS)is a recently proposed tree structure, which summarizes all data held in a relational database about a data subject. An OS can potentially be very large in size and therefore unfriendly for users who wish to view synoptic information about the data subject. In this paper, we investigate the effective and efficient retrieval of concise and informative OS snippets (denoted as size-l OSs). We propose and investigate the effectiveness of two types of size- l OSs, namely size- l OS (t)s and size-l OS (a)s that consist of l tuple nodes and l attribute nodes respectively. For computing size-l OSs, we propose an optimal dynamic programming algorithm, two greedy algorithms and preprocessing heuristics. By collecting feedback from real users (e.g., from DBLP authors), we assess the relative usability of the two different types of snippets, the choice of the size- l parameter, as well as the effectiveness of the snippets with respect to the user expectations. In addition, via thorough evaluation on real databases, we test the speed and effectiveness of our techniques.