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A framework for processing skyline queries for a group of mobile users (Conference Paper)

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Abstract

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Skyline processing, an established preference evaluation technique, aims at discovering the best objects, i.e. those that are not dominated by any other objects, in satisfying the user's preferences. Most of the skyline approaches are limited to a single user query. However, in real world scenario, due to the advancement of technology, adhoc meetings are becoming more and more common. Thus, it is necessary to consider the preferences of a group of users, when they intend to meet while they are on the move. While there are studies that consider the preferences of a group of users, the skyline objects derived by their solutions are noncontinuous as they did not take into consideration the movements of the users, i.e. the current locations. Therefore, in this study we present our proposed framework which aims at deriving skylines for a group of users while they are moving (i.e. mobile users) towards an undecided meeting point. The skylines which are the objects recommended to be visited by the group of mobile users are derived by analysing the locations of the mobile users, i.e. spatial attributes, as well as the spatial and non-spatial attributes of the objects. Since these users are moving, thus the skylines are continuously derived. Several experiments have been conducted and the results show that our proposed framework outperforms the previous work with respect to CPU time. © 2018 Association for Computing Machinery.

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