HomeSeeker: A Visual Analytics System of Real Estate Data

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HomeSeeker: A Visual Analytics System of Real Estate Data

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Abstract

In this paper, we present HomeSeeker, an interactive visual analytics system to serve users with different backgrounds of the local real estate market and meet different degrees of user requirements. As a result, HomeSeeker augments existing commercial systems to help users discover hidden patterns, link various location-centered data to the price, as well as explore, filter and compare the properties, in order to easily find their preferred properties. In particular, we make the following contributions: (1) We present a problem abstraction for designing visualizations that help home buyers analyse the real estate data. Specifically, our data abstraction integrates heterogeneous data from different channels into a location-centred integrated real estate dataset. (2) We propose an interactive visual analytic procedure to help less informed users gradually learn about the local real estate market, upon which users exploit this learned knowledge to specify their individual requirements in property seeking. (3) We propose a series of designs to visualize properties/suburbs in different dimensions and in different granularities. We have collected, integrated and cleaned last 10 year's real estate sold records in Australia as well as their location-related education, facility and transportation profiles, to generate a real multi-dimensional data repository, and implemented a system prototype for public access (`http://115.146.89.158`). At last, we present case studies based on real-world datasets and real scenario to demonstrate the usefulness and effectiveness of our system.

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