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A New Workflow for Interacting and Visualizing Big Data for Web Applications

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Interaction and visualization are two significant methods for both business people and scientists to find “gold nuggets” buried in raw data. These two methods can help understand complex theories and make it easier for people from different research areas to cooperate. Many prevalent web-based data interaction and visualization tools and libraries are not as effective as before because of big data. Most of the traditional client/server web application visualization tools and libraries process visualization and interaction on the client side. This workflow requires the server side to transfer data to the client side. If the data size is very large, the data transferring time is unbearable. In this poster, we propose a fast and new method for client/server web application to interact with and visualize big data. The method visualizes data on the server side with multiple CPU cores and transfers resulting images to the client side. The client side collects users’ interaction information and the server side updates visualization results based on the interaction information. We tested the workflow with large volume datasets and the results have been promising in terms of faster speed than with traditional workflows.

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