

## An Interactive Web-Based Anatomy Navigation System via WebGL and Kinect

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## Abstract

This paper presents an interactive web-based cross-sectional anatomy navigation system based on the high-resolution Chinese Visible Human (CVH) dataset. Compared with previous web-based anatomy learning systems, the proposed system has three new features. First, we exploit recently released WebGL API, which supports direct access to the Graphic Processing Units (GPUs) from the browser, to achieve real-time rendering of complex geometry models on the web. In addition, a modified depth peeling algorithm based on WebGL is implemented to provide translucent visualization of human models. Second, to facilitate user-system interaction, the Microsoft Kinect is incorporated into our system and users can navigate the Visible Human with their hand gestures. Third, in order to eliminate the unreliable bottleneck: network transmission, we adopt a coarse-to-fine strategy to transmit data from the server to clients progressively. Preliminary experiments demonstrate the feasibility of the proposed navigation system and its great potential for anatomy teaching and learning.

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