

Clinical DICOM image visualization for Interactive Publications

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Abstract:

An interactive publication (IP) is a self-contained multimedia document that enables reader control over media objects and reuse of media content for further analysis. Biomedical publications often contain lots of clinical images such as CT, MRI and ultrasound converted from DICOM to PNG, JPEG or BMP format, since none of the traditional publication viewers, such as Adobe Acrobat and Microsoft Word, provides native support for DICOM. We have developed a module for Panorama, an IP Viewer, to allow a reader to interact with, and analyze DICOM clinical images. The user can zoom in/out, change contrast, and cycle through an opened stack of DICOM images. Furthermore, our module provides access to DICOM header information, which is hidden in a traditional publication. The module also allows a user to observe the 2D projection of the stack from three orthogonal directions and to render a 3D volume. The user can observe the volume from arbitrary viewpoints by doing a rotation, and see the detailed information by scaling.