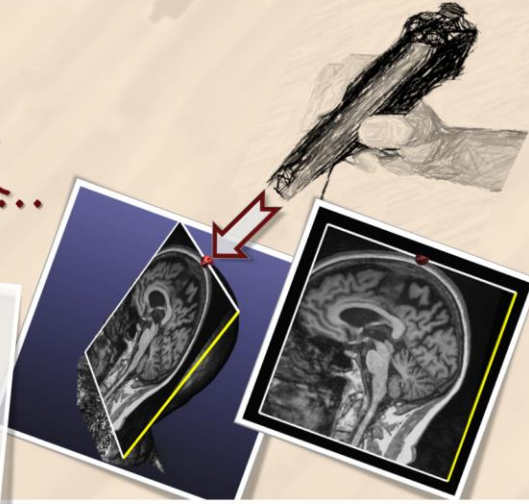


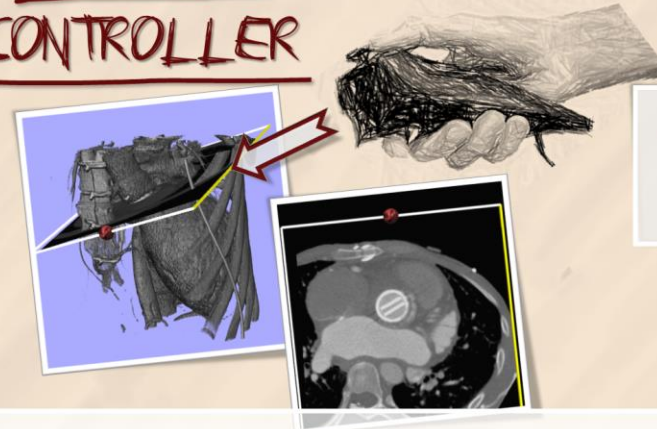


~~MOUSE,
TOUCHPAD,
TRACKBALL...~~

RSNA 2013
Education
Exhibit
LL-INE 3198



3D GAME
CONTROLLER



FOR DIAGNOSTIC
RADIOLOGY

Multiple degrees of freedom
for increased
usability & efficiency

For the radiological assessment of

- the cervical neural foramen
- the hippocampus
- mass lesions in the brain
- neck abscesses
- the aortic annulus
- and many more...

Define oblique MPRs. Scroll. Zoom. Change window level&width. Rotate 3D view. Etc.

PURPOSE/AIM

Recently developed game controllers allow for fast and accurate 3D human-computer interaction, with multiple degrees of freedom regarding the controller's position and orientation. The purpose of this exhibit is to demonstrate how these controllers can be used as input devices to efficiently navigate through medical images, thus enhancing the image viewing process.

CONTENT ORGANIZATION

A. Introduction of 3D game controllers as input devices that provide multiple degrees of freedom (DOF) for position and orientation as compared to conventional devices like mouse, touchpad or trackball

B. Hands-On: Utilizing multiple DOF to efficiently perform

- frequently used conventional viewing functions like scrolling, changing window level and width, and zooming into 2D images
- advanced 3D image viewing functions like creating oblique MPRs and rotating/zooming MIP or volume rendering views.
- special functions with regard to multimodality and 4D (3D+time) imaging, like PET/CT and cardiac CT

C. Demonstration of clinical cases to assess the benefits of using a game controller as addition to / substitute for conventional input devices

SUMMARY

Based on recently developed 3D game controllers, a new interaction concept for viewing medical images is presented. Hands-on experience will be provided to let the attendee assess the benefits and drawbacks of this approach