

Education System Based ON Augmented Reality for Visualization of Human Anatomy

How to test the application

Our project integrates **vuforia** as a detection method with **gaze** as a interaction method to control both the user interface and the model:

- 1- Putting the target image in front of the mobile camera in a stable way, once the camera catches the image target (Pre-made Anatomy book) the model will be placed on it.



Fig.1 Target image

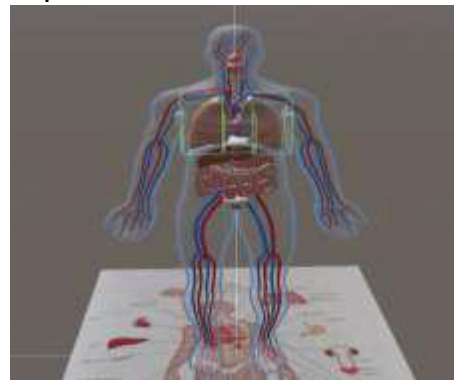


Fig.2 placing human model on target image

- 2- User controls transformations of the model via gaze (head movement) by focusing on a slider and changing its handle position. There are three sliders, the first for scaling and the other two for rotations in X and Y axes. User can reach all of that by first pressing on the “setting” button also by gaze.

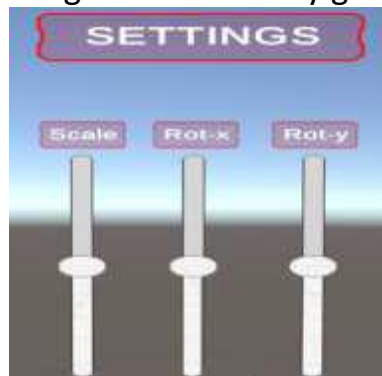


Fig.3 Transformation control GAZE

- 3- Information: A panel that displays information about the shown organ or the whole model and allows it to be controlled through focusing in a scrollbar via gaze to display more information. User can show or hide this panel via the “info” button.



Fig.4 Information panel

- 4- Sections: To display anatomical planes (median, frontal and axial) supporting these cuts with a suitable Computed Tomography images. User can select which plane to view and the position of the section from about three or four positions via gaze. User can show or hide all of these buttons via the “Section” button.



Fig.5 Sections buttons

- 5- Sound illustration: To illustrate the information of the organs by voice. User can play, pause or stop the voice via gaze. User can show or hide all of these buttons via the “Sound” button.



Fig.6 Sound illustration

- 6- User can display any organ he wants by focusing on it via gaze, refocusing on it again will redisplay the whole model. Users can navigate in lungs, heart, and urinary system.
- 7- Focusing in "sections", user will find this:

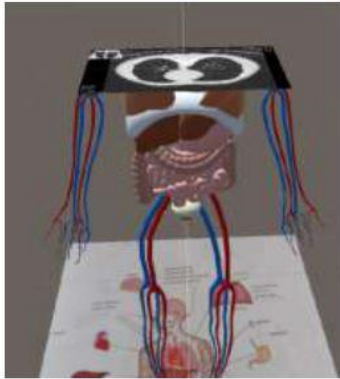


Fig.7 Axial cut

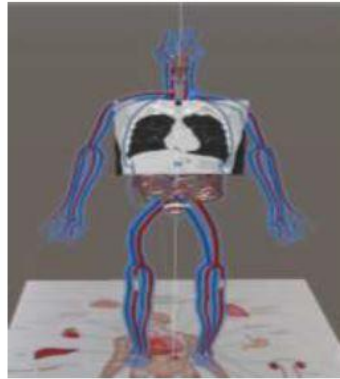


Fig.8 Coronal cut

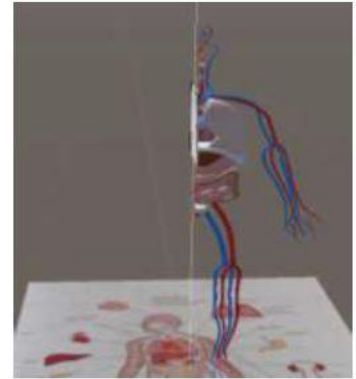


Fig.9 Sagittal cut

- 8- Focusing in "CT_MODEL", user will find this:

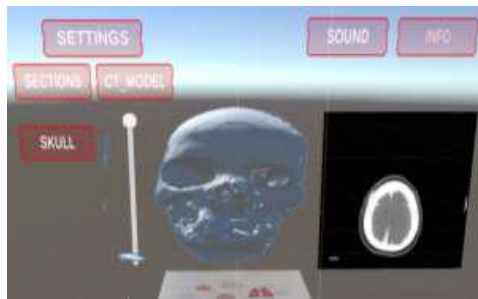


Fig.10 Chest_model with

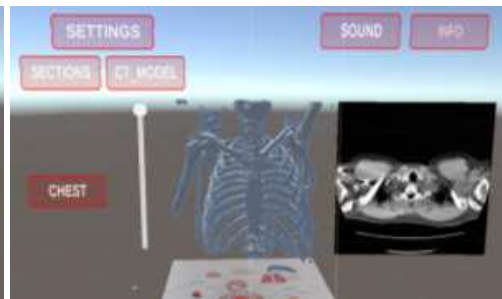


Fig.11 Skull_model with