Volume Slice Viewer

Abdulellah Abualshour
King Abdullah University of Science and Technology
Visual Computing Center
abdulellah.abualshour@kaust.edu.sa

February 16, 2019

In this project, we are prompted to implement an OpenGL application that allows the user to slice different volumes of CT scans for visualization purposes.

1 Introduction

Figure 1 shows a screenshot of the visualization interface of the volume slicer, which represents the user's main point of view of the CT scan loaded into the GPU.

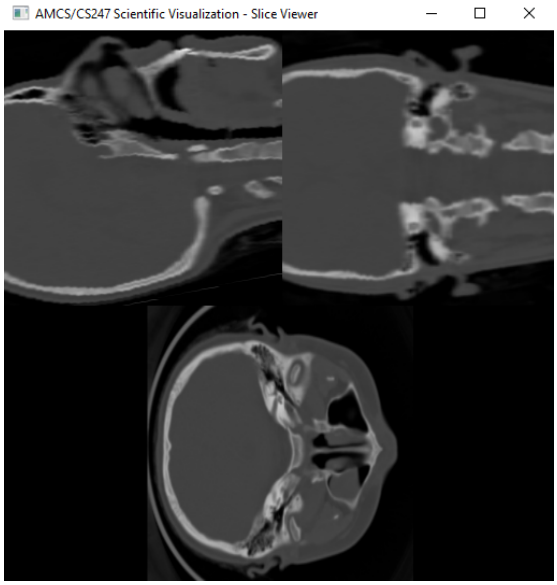

Figure 1: Main viewer showing 4 different slices of a brain CT scan

After loading the desired *.dat* file, the volume slicer application shows three slices of the CT scan.

2 Usage

Figure 2 is shows the a screenshot of the command line terminal when running the program. It provides the ability to toggle through the different three slices illustrated in Figure 1 using the a key on the keyboard. The user can also adjust the slicing position along a specific axis using the w and s keys after toggling to the desired plane.

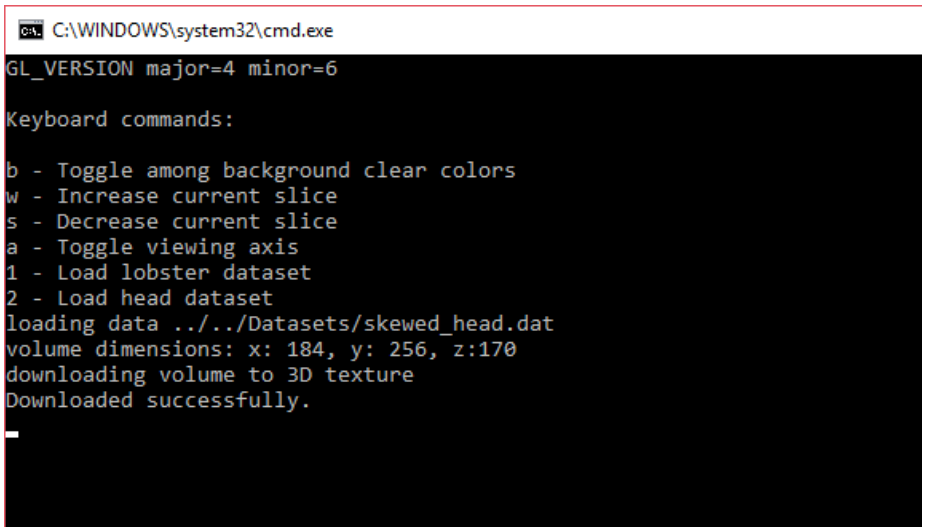

Figure 2: Keyboard shortcuts and navigation

3 Slicing Axes

The top left image in Figure 1 represents the YZ-plane slice cutting along the X-axis, the top right image represents the XZ-plane slice cutting along the Y-axis, and the bottom image represents the XY-plane slice cutting along the Z-axis.