ABSTRACT

In medical images, identification of object boundary or region of interest can provide useful information for diagnosis and treatment of disease. The segmentation process involved can be done manually, but very dependent on user expertise. The resulting accuracy of manual segmentation method is also low because of the influence of intra-and inter-observer. Therefore, automatic segmentation method is needed.

In this final project, medical image segmentation using edge contour detection algorithm based on dynamic target tracking is implemented. Path on object's edge is generated through edge detection by applying nine directional operators. Subsequently, targets along the path on object's edge in the image is tracked using the modified edge-following technique.

From experiments performed on Magnetic Resonance and Dental Panoramic Radiograph images, this method is able to segment objects properly. This method also has advantage in which the whole segmentation process is performed automatically.

Keywords: Image segmentation, edge detection, target tracking, edge-following technique, gray-level values