22nd SYMPOSIUM ON SPACE ACTIVITY AND SOCIETY (E5)
The Effect of Space Visualization Tools in Commercial Markets (3)

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THE EFFECT OF VISUALIZATION TOOLS IN COMMERCIAL MARKETS BY FITZ G. WALKER AND GRACE M. SCHAEFER, RN

Abstract

Bartron Medical imaging was founded in 2000 by Mr. Fitz G. Walker, Jr. using a technology licensed from NASA Goddard Space Flight Center. The Hierarchical Segmentation Technology (HSEG) developed by Goddard's Dr. James C. Tilton, and developments with Recursive Segmentation (RHSEG) using a new concept – the High Performance Computer (HPC) Cluster are the first of its type. NASA was applying this technology toward analysis of land-based images (terrestrial and planetary). Mr. Walker saw the potential of this technology to possibly be an enormous leap forward in digital medical imaging. This potential is realized in the Bartron Medical Imaging MED-SEG^{TM} BMTS1000 System (MED-SEG^{TM}) which received FDA clearance in July 2010.

Optimized for speed and accuracy, the patented algorithm that fuels the software provides the MED-SEG user with precise control for selecting the desired level of detail from the hierarchy of all results.

The MED-SEG can receive medical images and data from various imaging sources; including but not limited to CT, MRI, US and Radio Frequency (RF) units. There are four main medical imaging modalities: X-ray (including computer tomography CT and mammograms), magnetic resonance imaging (MRI), radiopharmaceutical imaging, and ultrasound. Each modality is evolving to meet a growing list of demands placed upon it by modern healthcare requirements.

BMI can process images from:

1. Mammography (x-ray of the breast) images for specific abnormalities such as micro calcifications or tumors; it may also be used for MRI images of the breast. Bartron believes that adapting this technology will lead to more accurate reading of mammograms, especially among young women with dense breasts and that should ultimately lead to saving money and improving care for women.

2. Computerized tomography scans (CT scans) of the brain to assess for abnormalities that may lead to strokes. It may also be able to pick up small shrapnel shards that are not visible on an X-ray or scan.

3. Bone x-rays to assess for soft tissue damage such as torn ligaments or small tears. It may also be used on MRI's done for trauma to a joint. Another possibility is to use the MED-SEG^{TM} on cone beam 3D dental x-rays assessing for osteoporosis and/or osteopenia.

4. MRI studies to identify lung nodules

5. CT colonography studies to identify colonic polyps

6. CT studies of the abdomen