Archimedes, an Archive of Medical Images

Researchers

- **University of Maryland**
  - **Hanan Samet**
  - **Dave Tahmoush**
- **Software Engineering at Maryland (SEAM)**

Matt Fowle **Dan Ilkovich**
Nima Negabhan **James Wren**
Guilherme Bandeira **Duane Gilbert**
Matt Weinstein **Hassan Shaukat**
Sureshmi Wijewardena **Bernard Ng**
Paul Carlson

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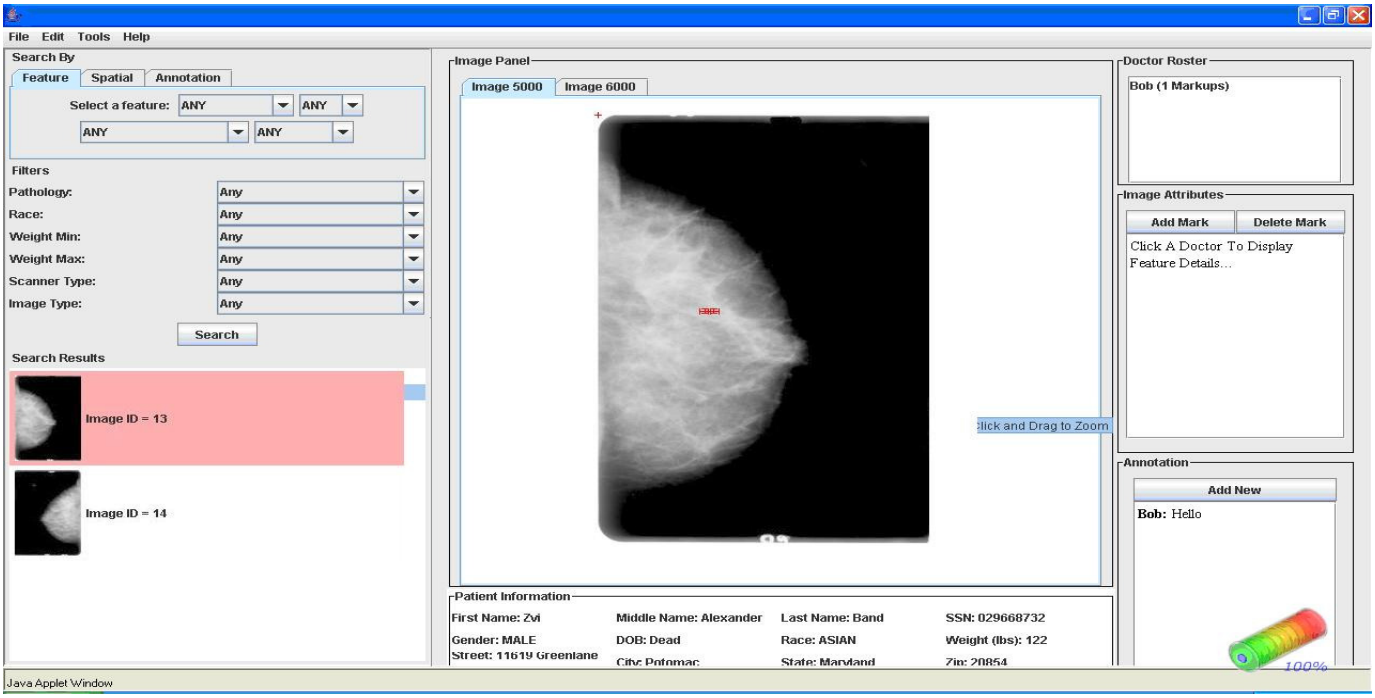
A web-enabled medical image and medical record database for the storage, research, transmission, and evaluation of medical images has been developed. Medical images from any source that supports the DICOM standard can be stored and accessed, as well as associated analyses and annotations. Retrieval can be based on patient info, date, doctor's annotations, features in the images, and a spatial combination of features. This database supports the secure transmission of sensitive data for tele-medicine. In addition, ARCHIMEDES facilitates research into the techniques used by radiologists through double-blind radiologist comparisons based on their annotations and feature markups.

The spatial search capability of Archimedes enables users to search for a combination of features within an area of the image. This allows the creation of meta-features, or features combined together to create a more effective feature. This technique can also be used to compare radiologist diagnoses and to simplify research into radiologist techniques. The diagnoses of multiple radiologists can be combined using the spatial search to easily provide a double-reading comparison.



http://www.cs.umd.edu/~hjs/escience.html	**Archimedes eScience page**
http://www.cs.umd.edu/~hjs/pubs/medicalimagepapers/Archimedes Poster-MSR-Research-Summit-05.pdf	**Early Archimedes poster**
http://www.cs.umd.edu/~hjs/pubs/medicalimagepapers/spie06.pdf	**Using image similarity to detect breast cancer**
http://www.cs.umd.edu/~hjs/pubs/medicalimagepapers/iwdm06.pdf	**Image Similarity and Asymmetry to Improve CAD**