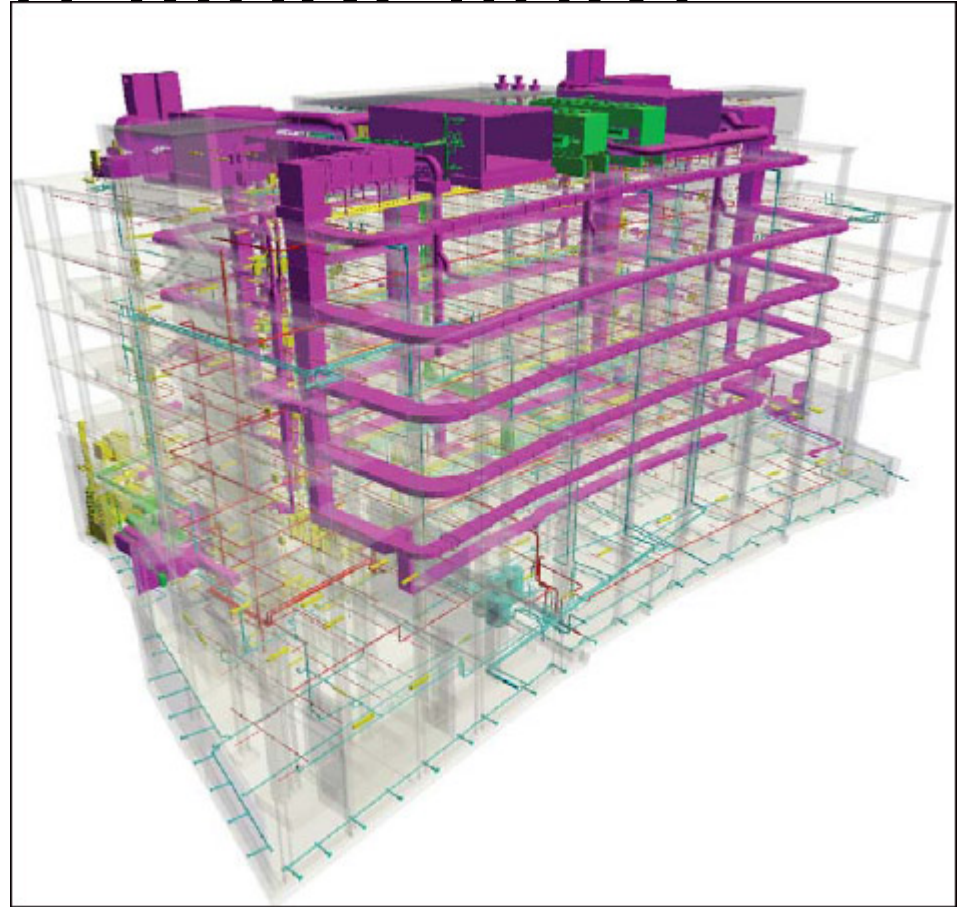
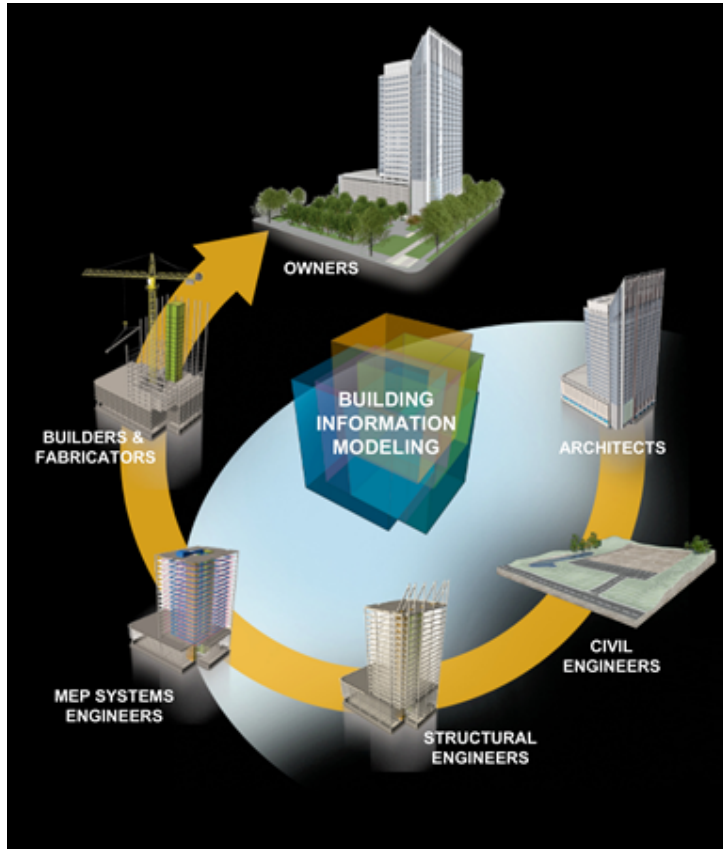


# The Building Industry of the 21st



18/06/10

# Current-BIM (Building Information Modeling)

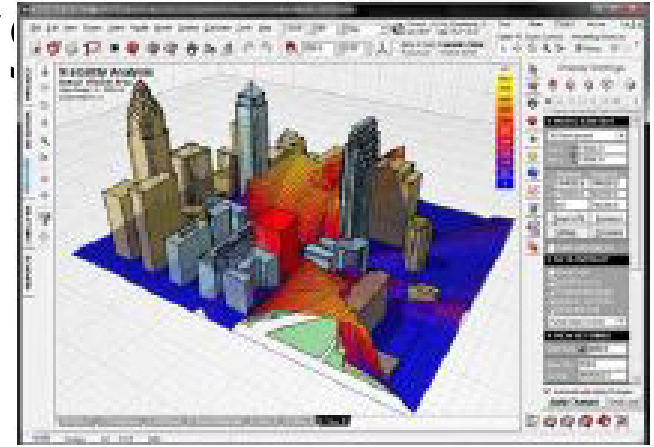


# Future -FIM (Fabrication Information Modeling)

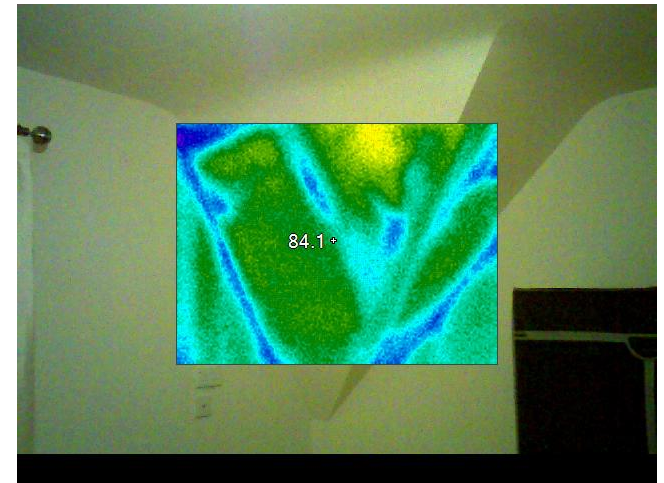
# Urban Planning & Building Physics



Urban Planning



THERMAL PHYSICS  
BUILDING  
ENVELOPES




# Building Industry Augmented Reality



**IDEAbuilder**  
...The future of building

Instructions

1. Print the image marker below

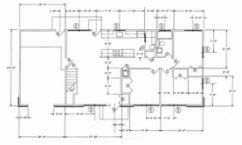


2. Hold marker in front of webcam

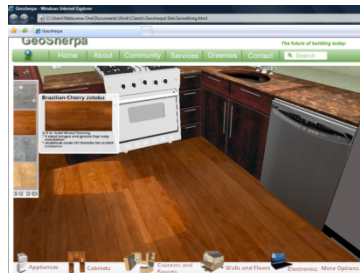
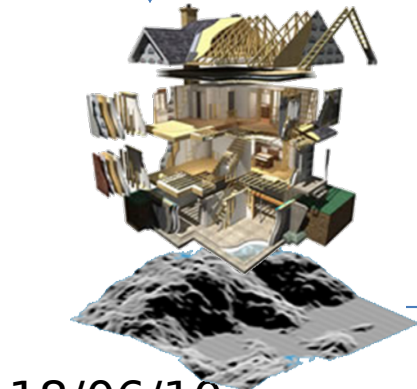
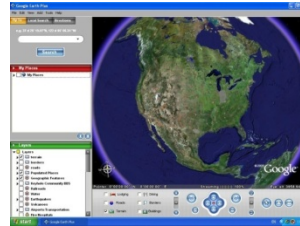
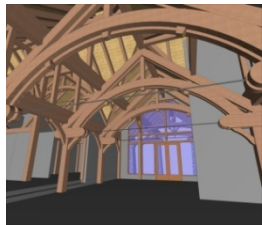
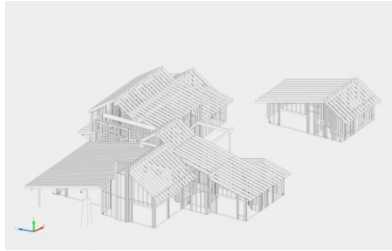


The Blox is a long, narrow, rectilinear wood-frame structure inspired by two Southern prototypes: the shotgun and the dogtrot. Constructed from standard wood members and common construction materials with a minimum of cutting, the Blox is a flexible kit of parts that can be customized easily to the particular needs of a family.





# How does all this work?



18/06/10

# Medical Augmented Reality



18/06/10

# Medical Augmented Reality

- Provides the most intuitive access to the human anatomy for diagnosis, preoperative planning and intraoperative guidance and navigation of surgical instruments in open and minimal invasive surgery.
- Tissue and bones can be registered with the patient's anatomy, which allows for observation of MRI, CT and Ultrasound imaging data right at the patient.
- Also instruments penetrated into the patient and therefore invisible for the physician can be augmented to provide precise information about the operation site within the patient.





# Medical Augmented

Reality



5th International Workshop on  
Medical Imaging and  
Augmented Reality

Sep. 19-20, 2010, Beijing China



The aim of MIAR is to bring together researchers in computer vision, graphics, robotics, and medical imaging to present the state-of-the-art developments in this ever-growing research area

- \* Medical Image Formation, Analysis and Interpretation
- \* Augmented Reality and Visualization
- \* Computer Assisted Intervention, Interventional Imaging
- \* Image-guided Robotics, Image-guided Intervention
- \* Surgical Planning and Simulation
- \* Systematic Extra- and Intra-corporeal Imaging Modalities
- \* General Biological and Neuroscience Image Computing
- \* Patient Specific Modeling and Medical Image

Understanding

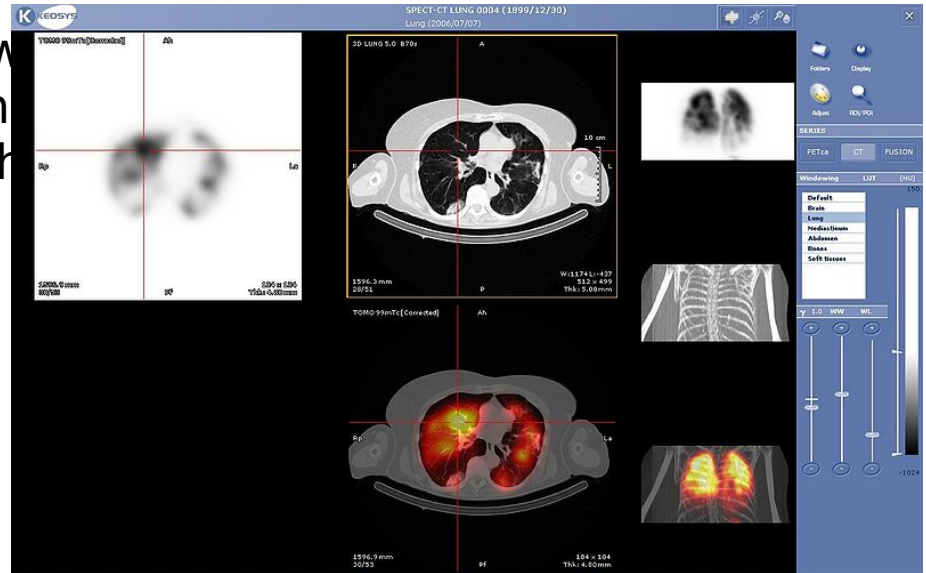
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# Medical Augmented



## Digital Imaging and Communications in Medicine (DICOM)

- Standard for handling, storing, printing, and transmitting information in medical imaging.
- It includes a file format definition and a network communications protocol.
- The communication protocol is an application protocol that uses TCP/IP to communicate between systems.
- DICOM files can be exchanged between



# Medical Augmented Reality

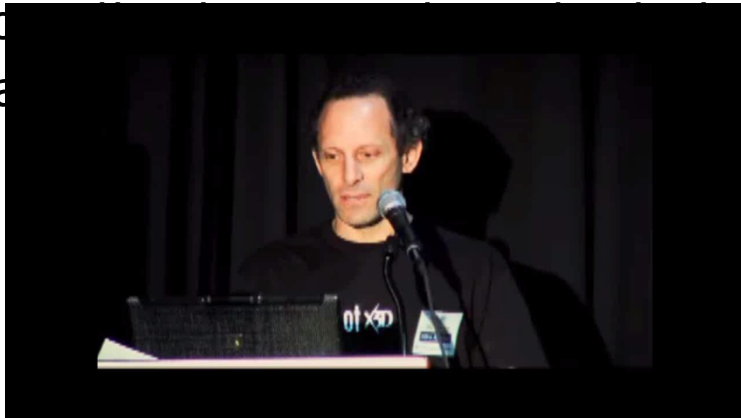
**MedX 3D** is tightly focused on medical applications that can benefit from real time 3D visualization.

- Types of applications include medical modeling and simulation for research and education

- 3D image rendering for planning and guiding surgical and nuclear medicine procedures

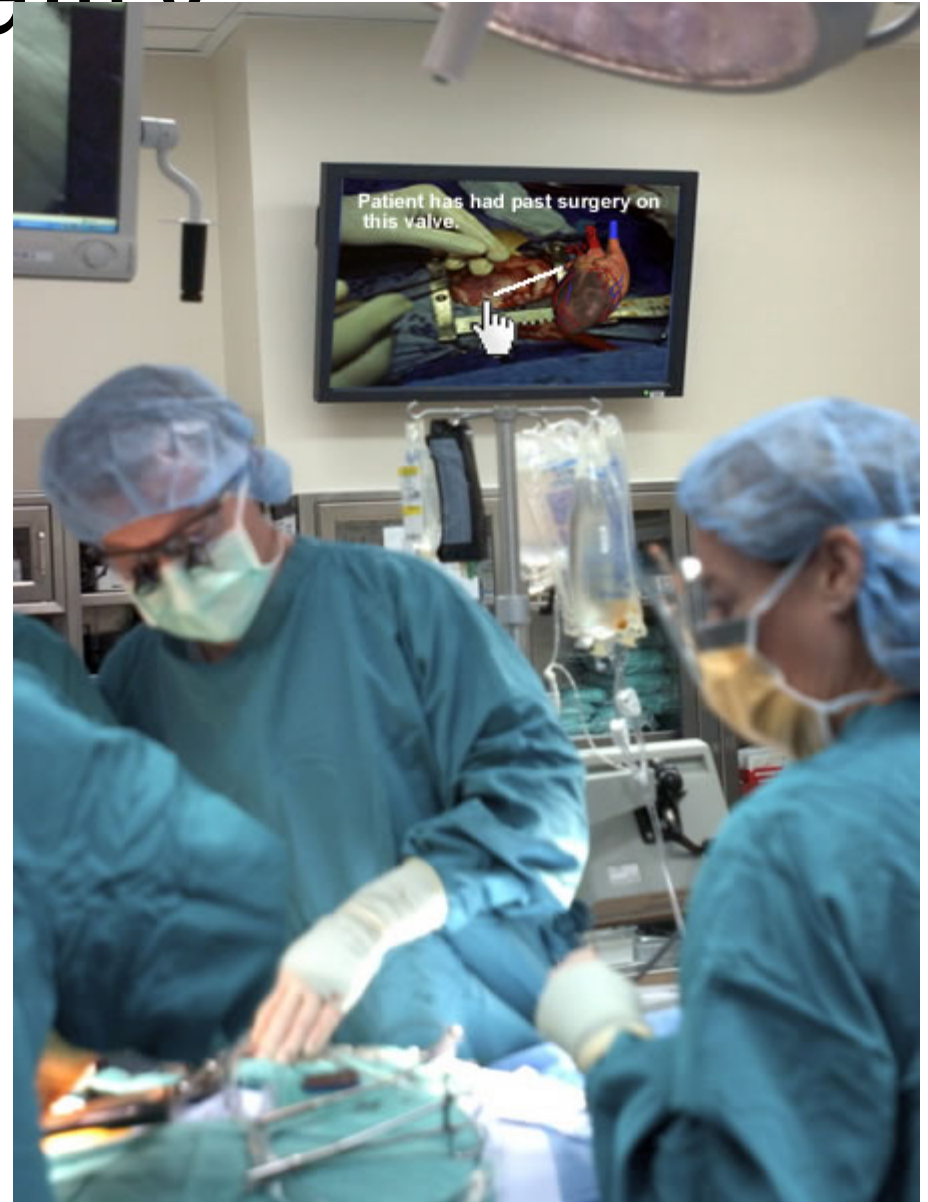
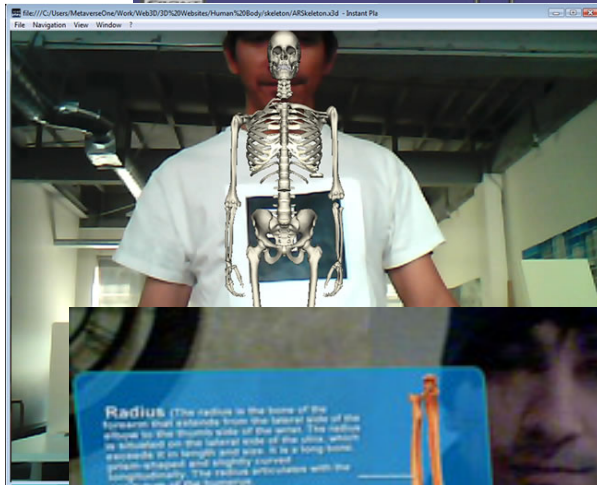
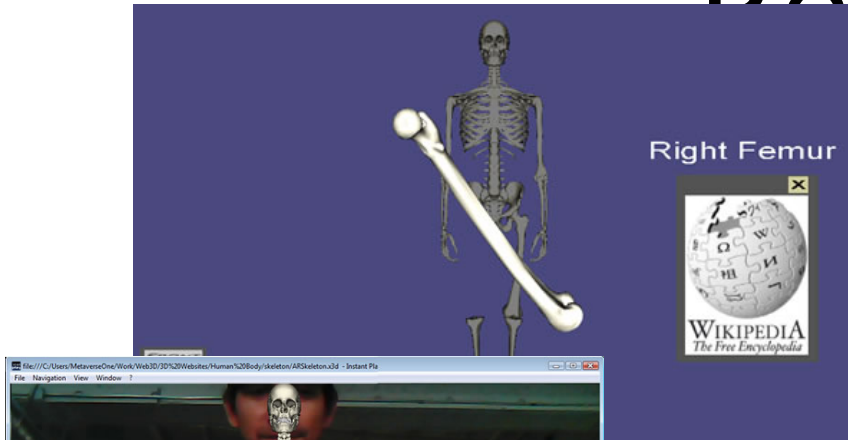
- Image fusion-the association of specific 2D images from multimodal (PET, CAT, MRI, Ultrasound) scans with one another or with existing 3D images of a given patient.

- Contribution: Dr. Michael Aratow - Chief Medical Information Officer for San Mateo



18/06/10  
Contribution: Dr. Michael Aratow - Chief Medical Information Officer for San Mateo

# Medical Augmented Reality



Thank you!