From Vision to Reality
A Journey of Augmented Reality in Surgical Planning

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Dearborn, MI
Two influential memories that hooked me on augmented reality
The Atlanta Cyclorama

The World’s Largest Oil Painting

352 X 42 Foot 360° Panorama
The Atlanta Cyclorama
Two influential memories
Augmented Reality?
AR is not New
AR is not New
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AR is not New
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AR is not New
AR is not New
AR in 2017

Now We Are Here
AR in 2017
AR in 2017
AR Improving Healthcare Outcomes
AR Improving Healthcare Outcomes

Transforming education and training of health professionals
AR Improving Healthcare Outcomes

Impact Patient Care
- Pre-surgical planning
- Diagnostics
- Improved patient outcomes
- Anxiety therapy
AR Improving Healthcare Outcomes

Patient Education

• Reduced pre-procedural anxiety
• Anatomical concepts
AR Improving Healthcare Outcomes

Unprecedented Research Opportunities

- Virtual pathology placement
- Custom valve replacement
- Biomaterial 3D printing
Lessons Learned

1. For acceptance as a training/educational model, visuals must be:
   • Scientifically accurate
   • Highly Realistic
   • Evidence – based
   • Interactive

2. Must work extremely close with SMEs

3. It takes a multidisciplinary team (iEXCEL)
   Modeler/Medical illustrator, Graphic Artist, Animator, 3D Computer Programmer, Instructional Designer, Project Manager, etc.

4. Project has to be feasible and manageable

5. IP has to be considered

6. Is it distributable/able to be commercialized?