



# The HIT Lab NZ: Unlocking the Power of Human Intelligence

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HIT Lab NZ

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**symbian**  
OS

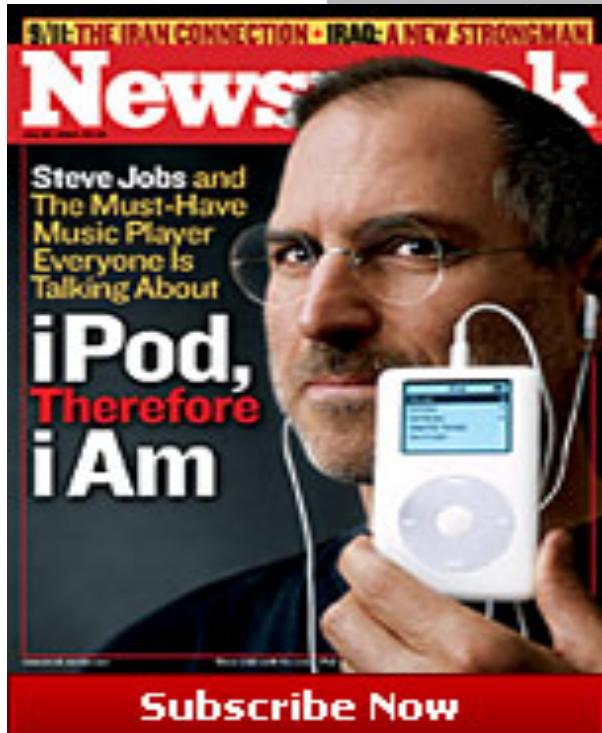


- Over 1.5 millions mobile apps and growing

**“The product is no longer the basis  
of value. The experience is.”**

Venkat Ramaswamy  
The Future of Competition.

# Great User Experience



# HIT Lab NZ Mission

1. Provide multi-disciplinary **project-based learning environment** for students
2. Create a **centre of excellence** for human interface technology research
3. **Transition technology** to promote economic development of the region and NZ as a whole

# HIT Lab NZ People

- **50+ Staff and Students**
  - 10 staff, 25+ PhD/MS students
- **Subjects**
  - Comp. Sci., EE, Mech. Eng., Psych.
  - Fine arts, Multimedia, Industrial Design
- **Countries**
  - Germany, Austria, France, Korea, China, NZ..
- **Research**
  - At the collision of different areas





Teaching

# Teaching

- Human Interface Technology Degrees
  - PhD
  - MHIT (12-18 months, tuition covered)
- Graduated students:
  - 14 PhD, 23 Masters
- Courses at UC:
  - Augmented Reality, Design Thinking
- Workshops, Tutorials:
  - Visualization, Augmented Reality, Interaction Design



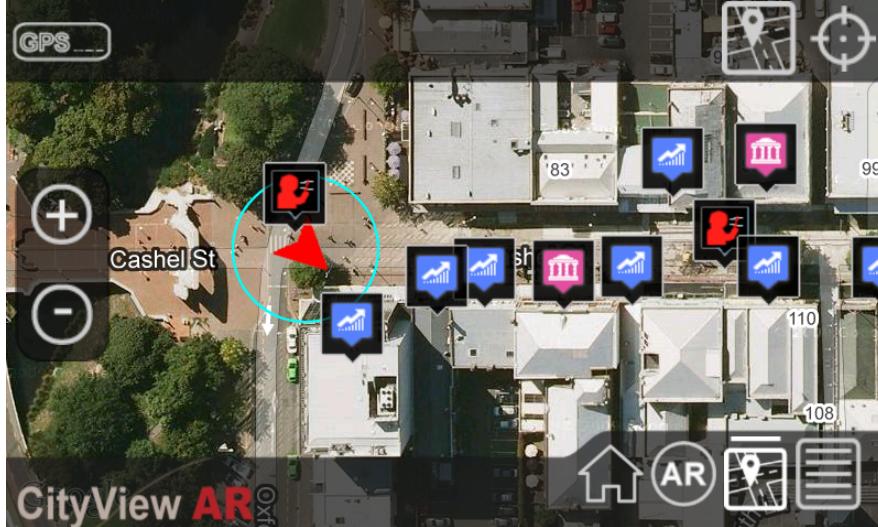


# Research Strengths

- **Fundamental Research**
  - Augmented Reality
  - Visualisation
  - Teleconferencing
  - Human-Robot Interaction
- **Applied Research**
  - Interaction Design
  - Industry Driven



# CityViewAR



- Using AR to visualize Christchurch city buildings
  - 3D models of buildings, 2D images, text, panoramas
  - AR View, Map view, List view
  - Available on Android/iOS markets



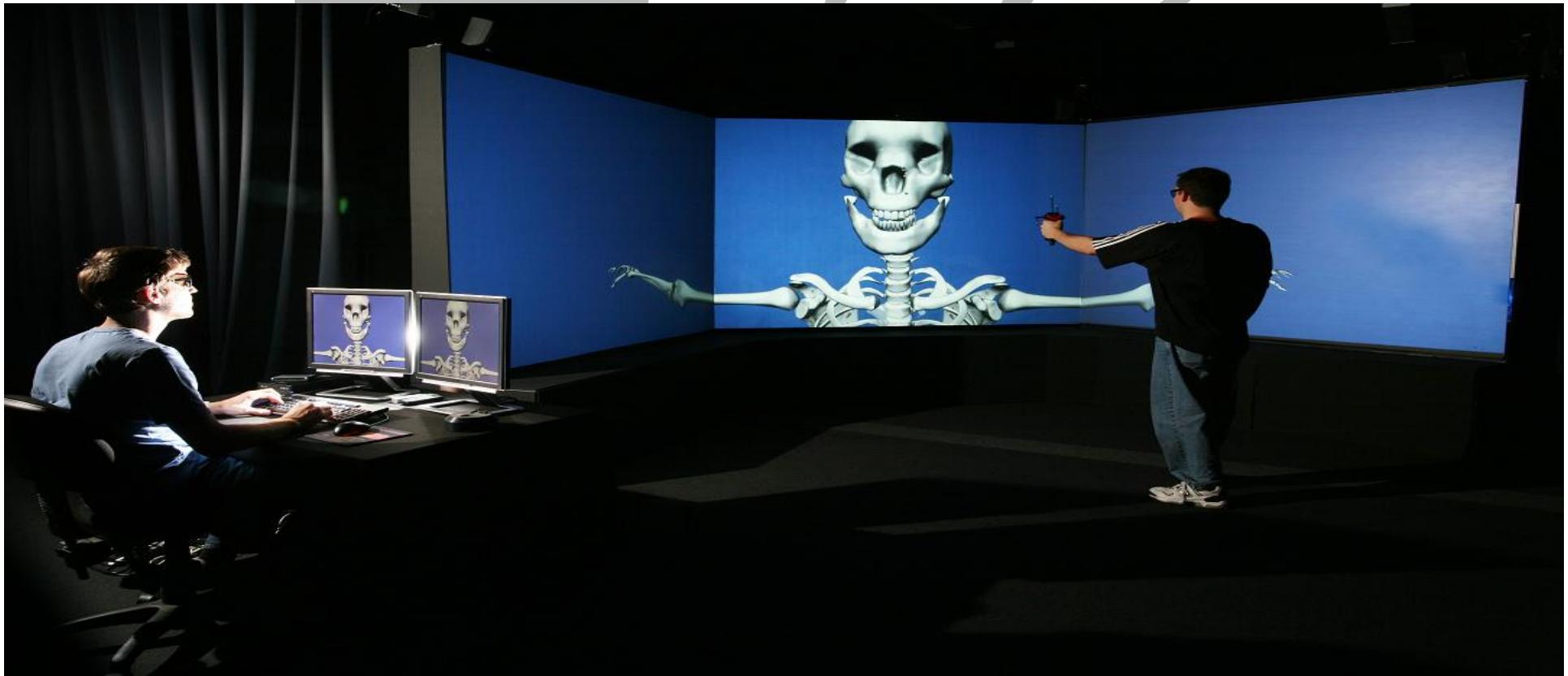
# Sharing Space: Social Panoramas



- Capture and share social spaces in real time
- Enable remote people to feel like they're with you



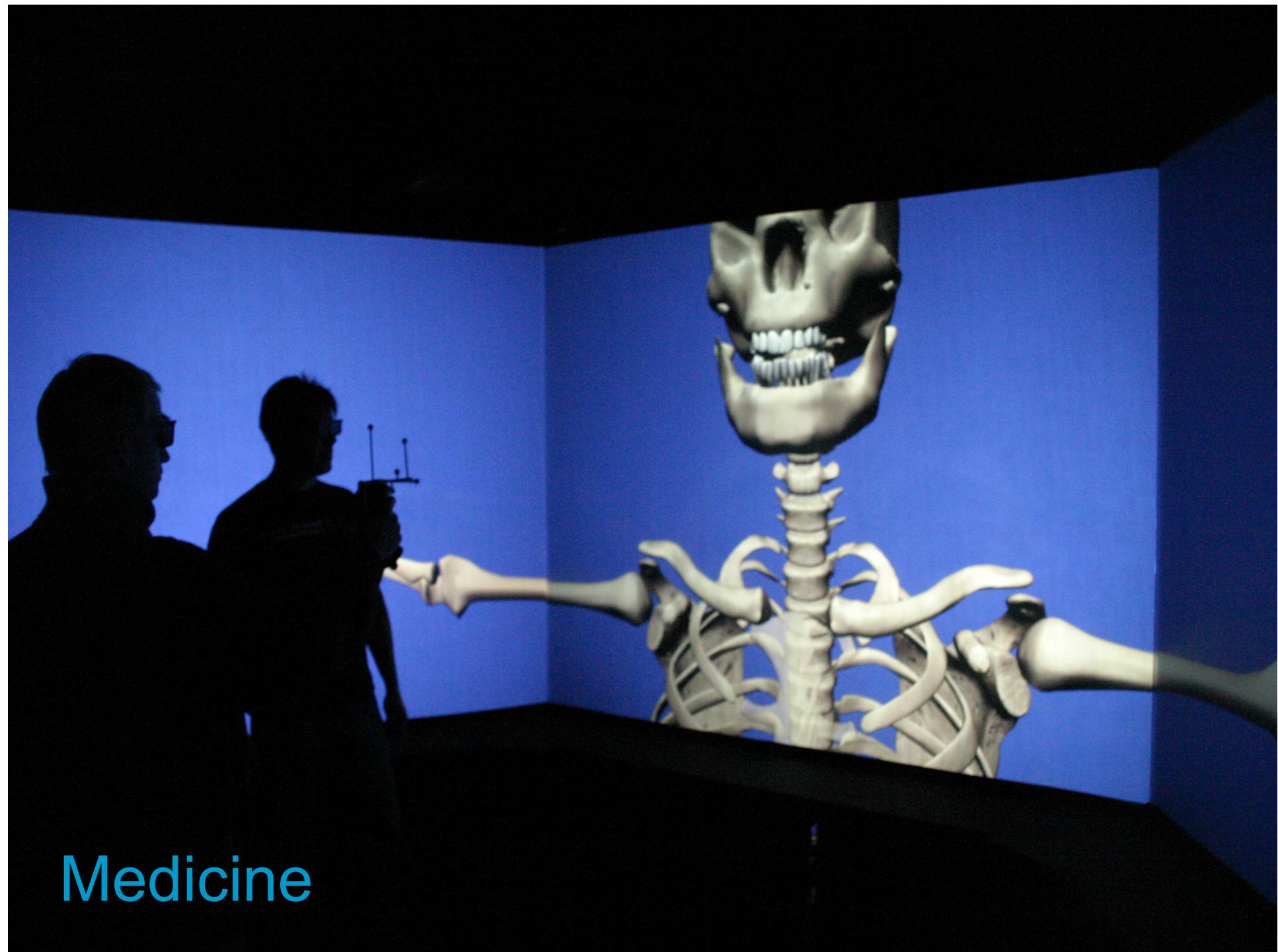
# VisionSpace



Next Generation Visualization



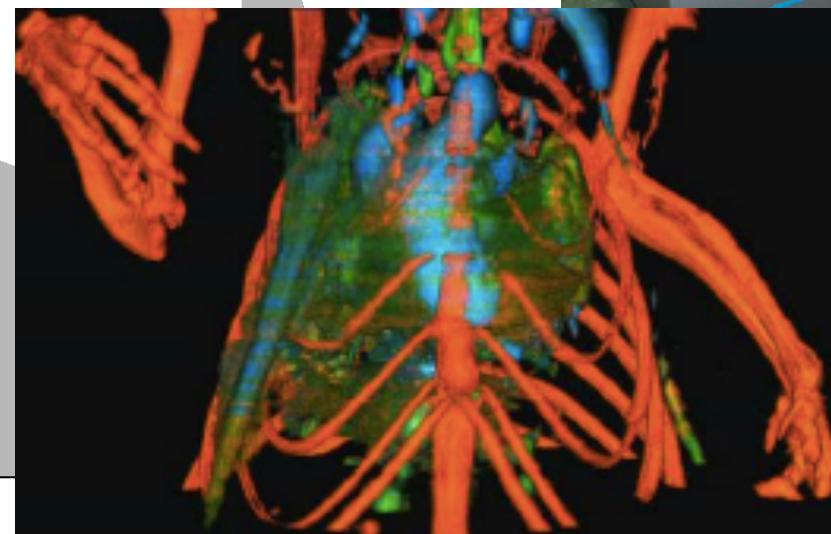
# GeoSpatial Data



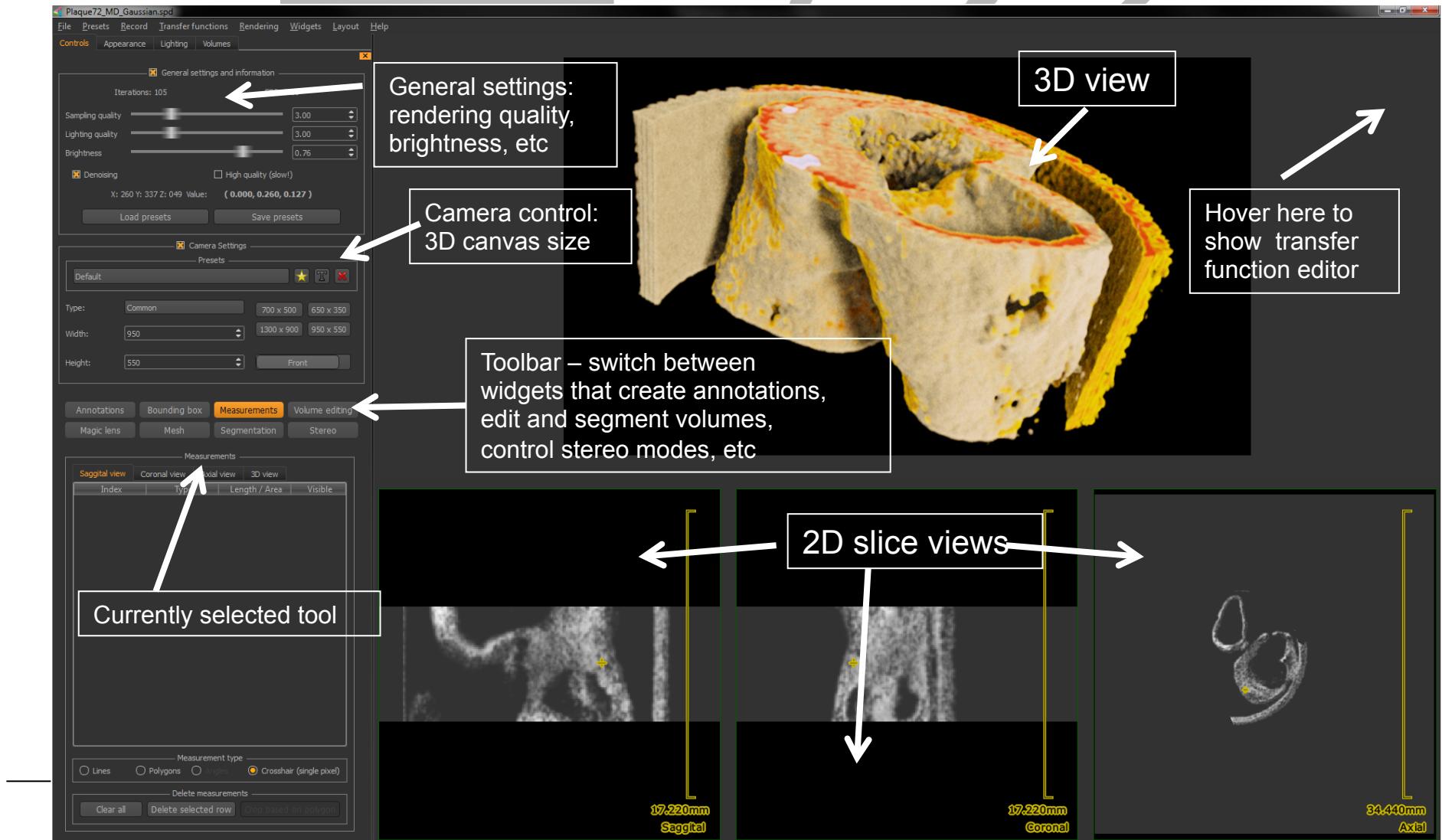
Medicine

# MARS Project

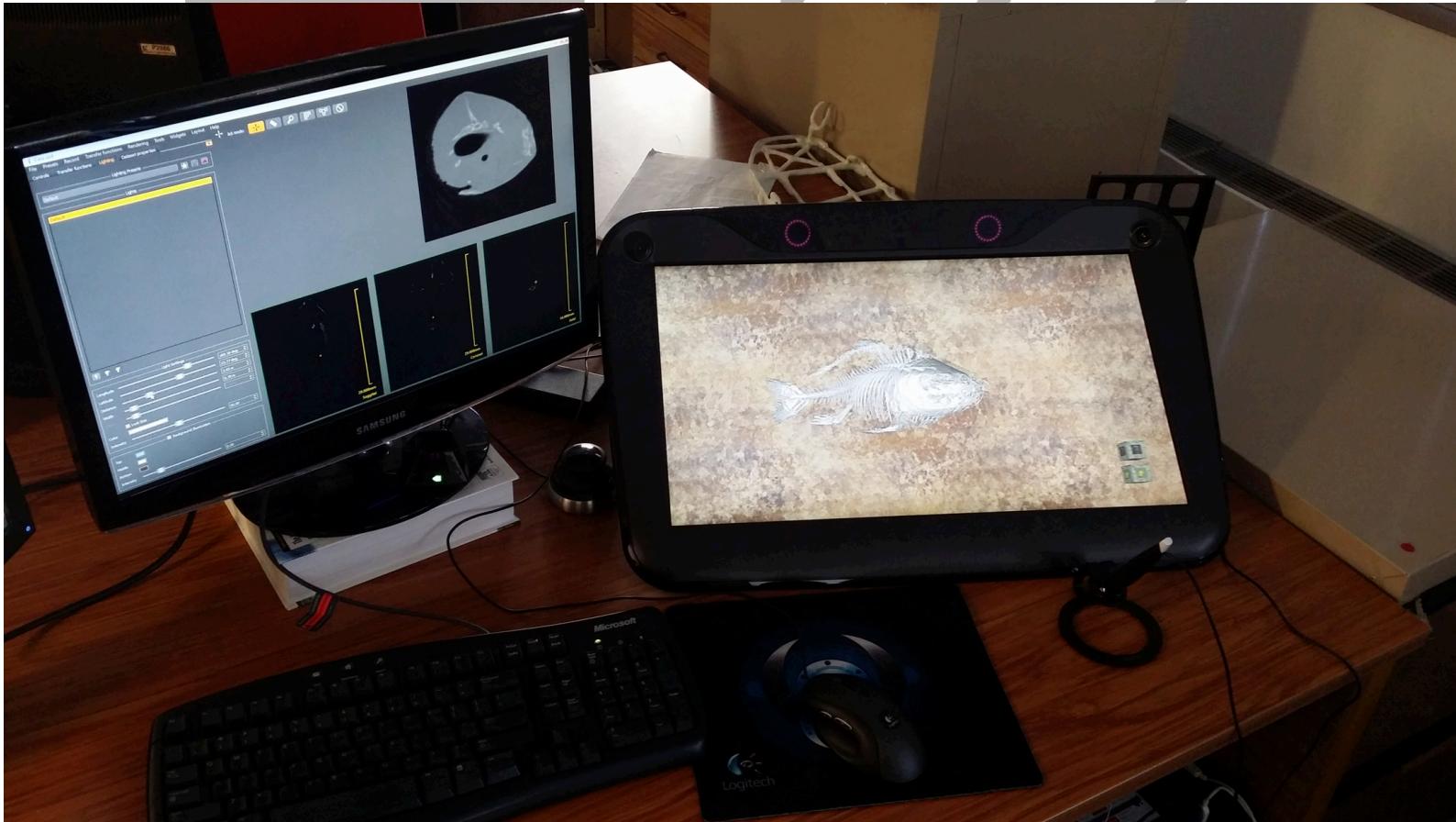
- MARS Multispectral CT Scanner
  - World's first 4 energy bin scanner
- 3D visualization scan data
- End users
  - Radiologists
  - Researchers
  - Doctors



# MARS Visualization UI overview



# Multi-screen Interface





# Human Robot Interaction

- **Roila**
  - Artificial language for robots
- **AR interfaces**
  - AR for robot guidance
- **Speech/gesture interaction**
  - Multimodal input
- **User Evaluation**
  - Uncanny valley effect

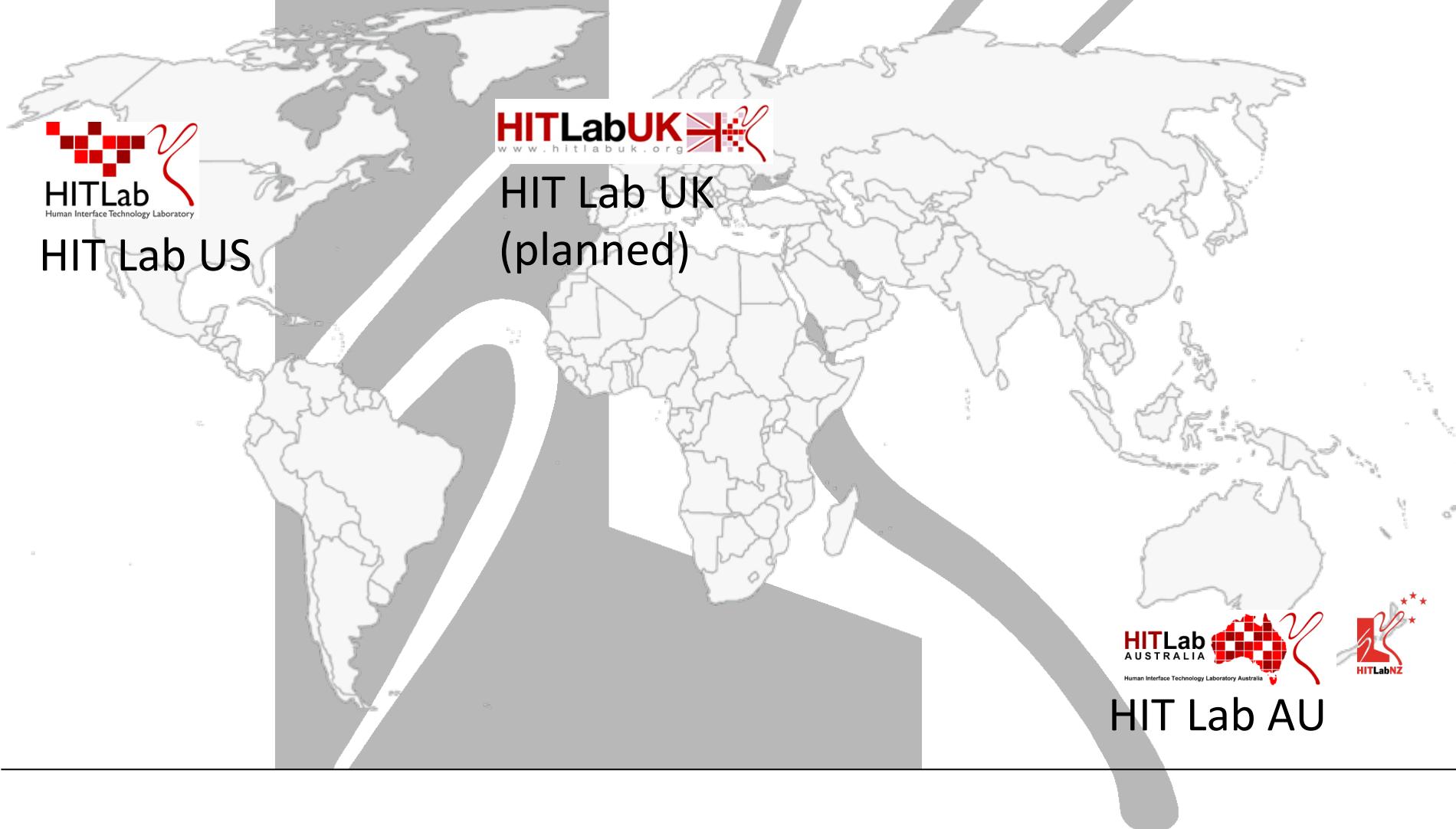


# Research Collaboration

- Europe
  - Germany, Austria, UK, Finland
  - CALMARS, IP City, EURASIA PAC, exchange programmes
- Asia
  - Korea, Japan, Singapore
- USA
  - Washington, Florida, WPI



# HIT Lab Global Network





# Commercialization

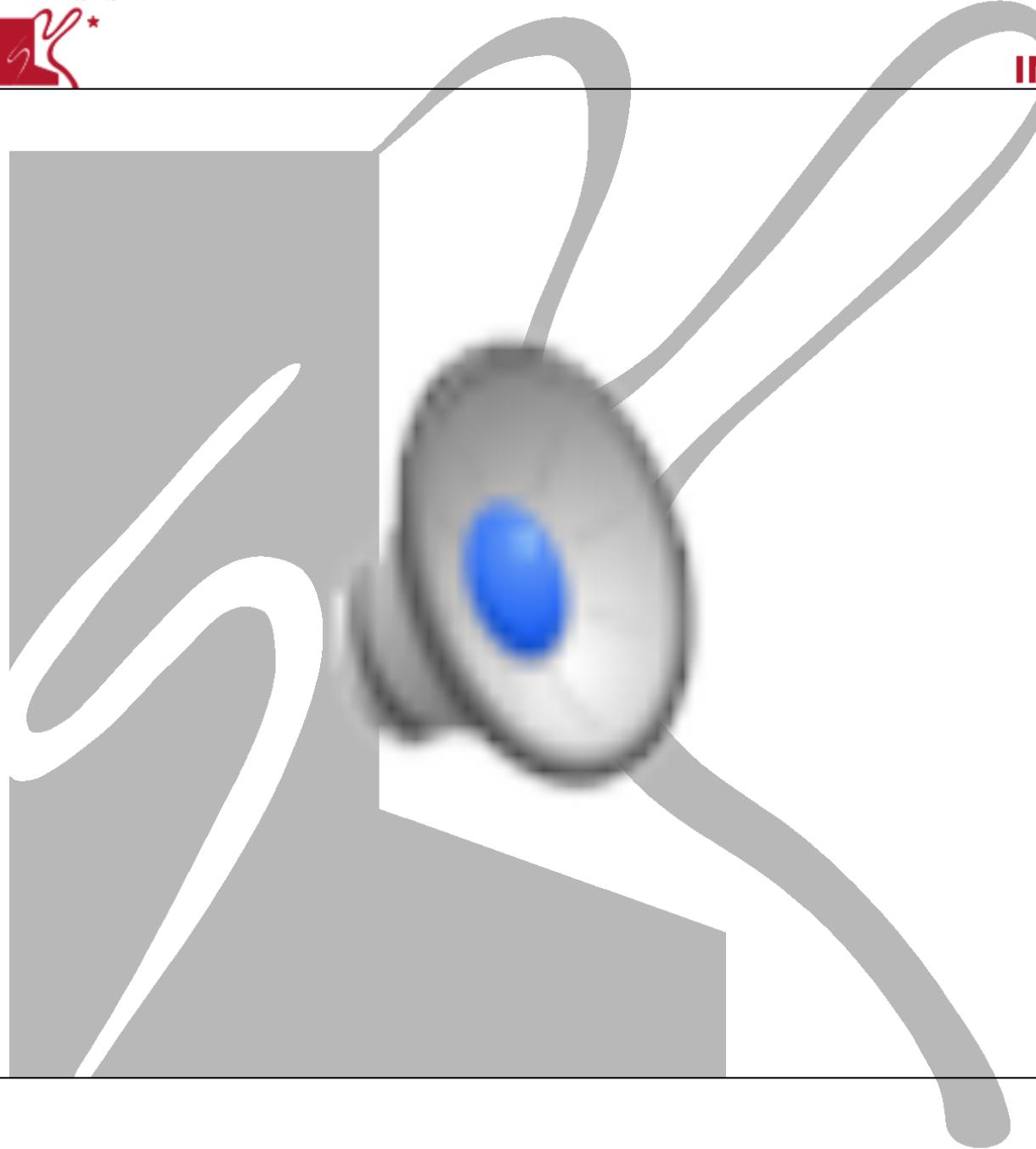
# Commercialization

- **Products**
  - BuildAR, osgART, CityViewAR, Outdoor AR, Lego
- **Licensing**
  - osgART, EC Plug-in, SSTT
- **Spin out companies**
  - Motim, Mindspace, Dried Frog, Caterwaul, Puteko
- **Consulting**
  - Nokia, HP, ABB, Trimble, Google, BlackBay, etc

# Example: Puteko



- <http://colarapp.com/>



## Example: Puteko

- **Founded in 2012**
  - Incubated in lab until 2013
- **Developing AR colouring books**
  - Mobile AR on iOS/Android
- **Venture Capital Funded**
  - Raised \$200K seed money, then \$1.5 million
- **Over 1 million downloads and growing**
  - #1 in Japan, Korea, top 10 in US/UK



# Industry Collaboration

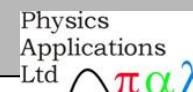
- Recent Industry Partners (2014):



- Former Industry Collaborations:



Warren and Mahoney





# Conclusions

# Conclusions

- **The HIT Lab NZ:**
  - Is a leading centre for interface teaching + research
  - Researches unique technology
    - Augmented Reality
    - Visualization
    - Next generation teleconferencing
    - Human robot interaction

# More Information

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