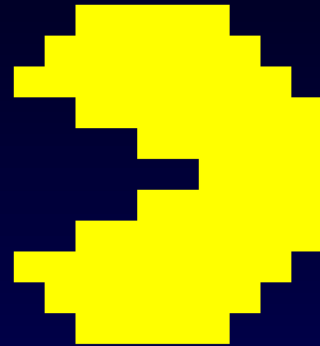
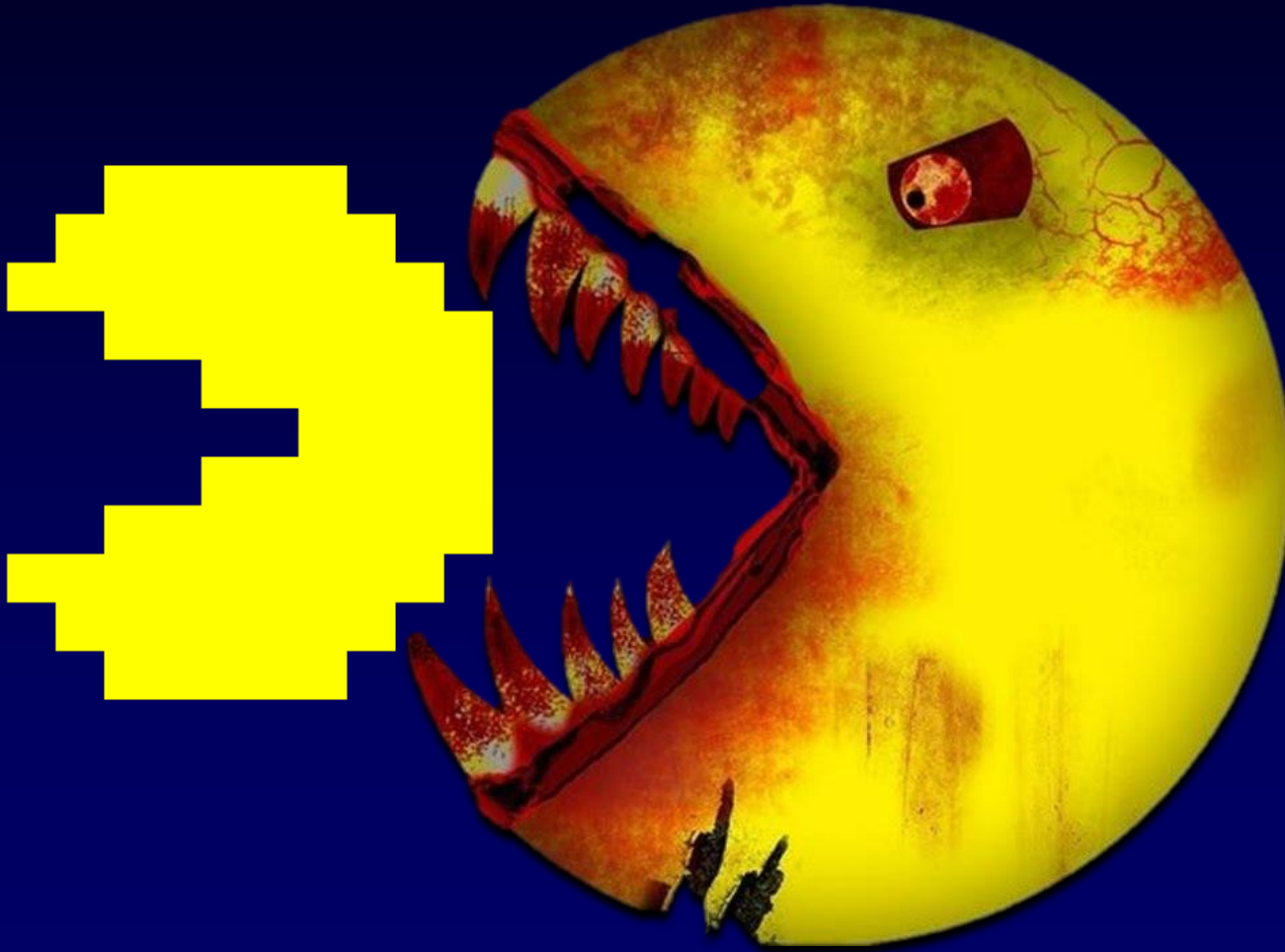


Prof. Pedro V. Sander  
VISGRAPH group



# Rendering and Imaging

# Graphics have come a long way



# Topics

- Rendering optimization

- *real-time shading algorithms, acceleration techniques, GPU computation*

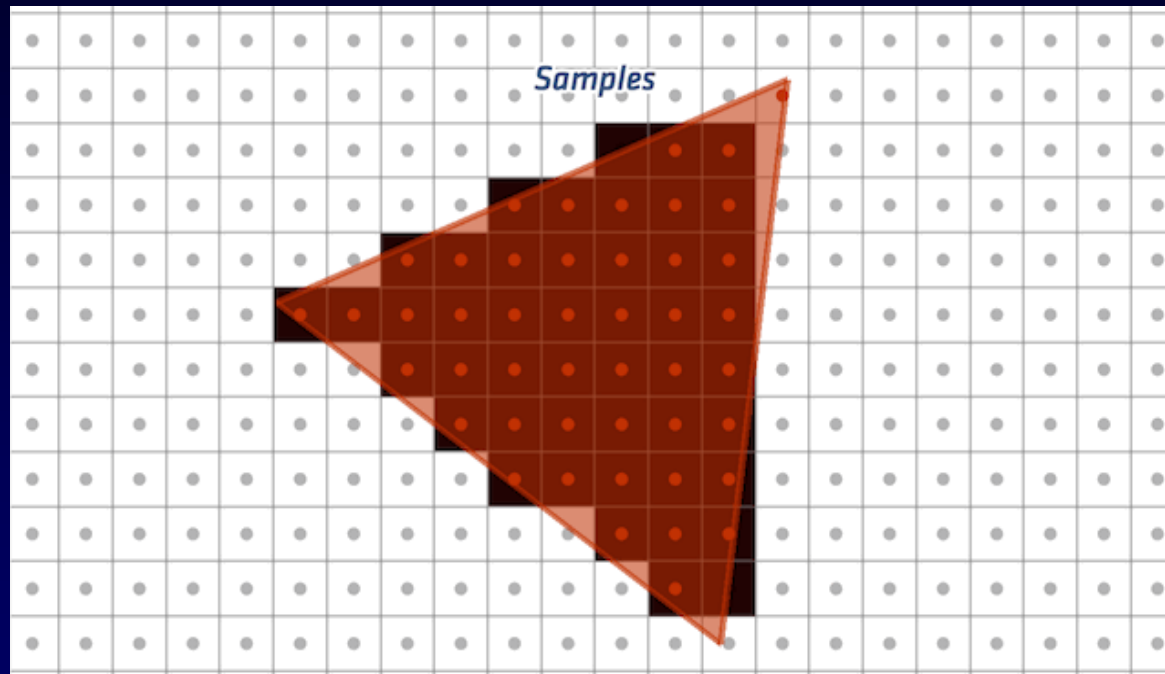


- Imaging techniques

- *handling gigantic datasets, image morphing techniques*



# Rendering



Real-Time  
PARTHENON



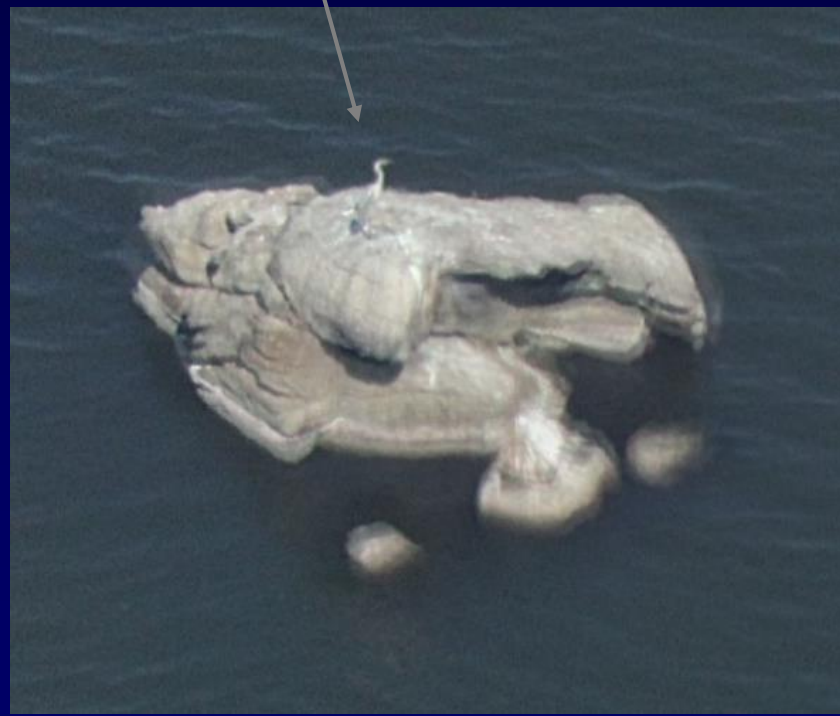


rhinofx

ATI

# Imaging



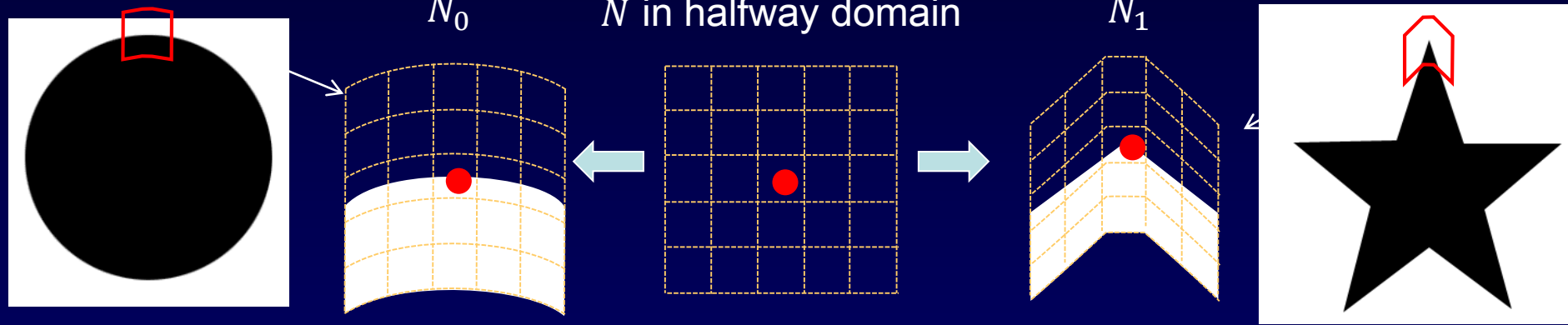








# Image morphing





Key frames



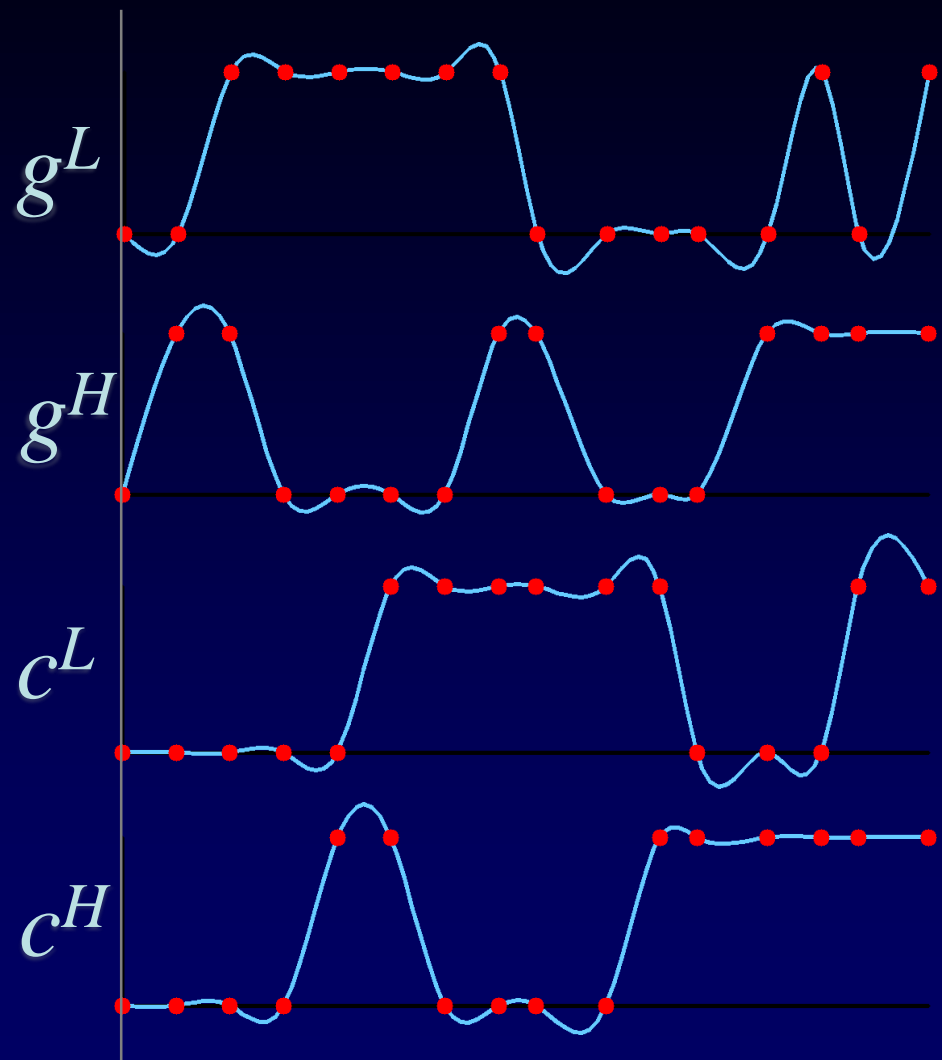
Original video

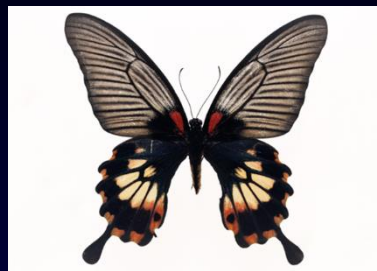
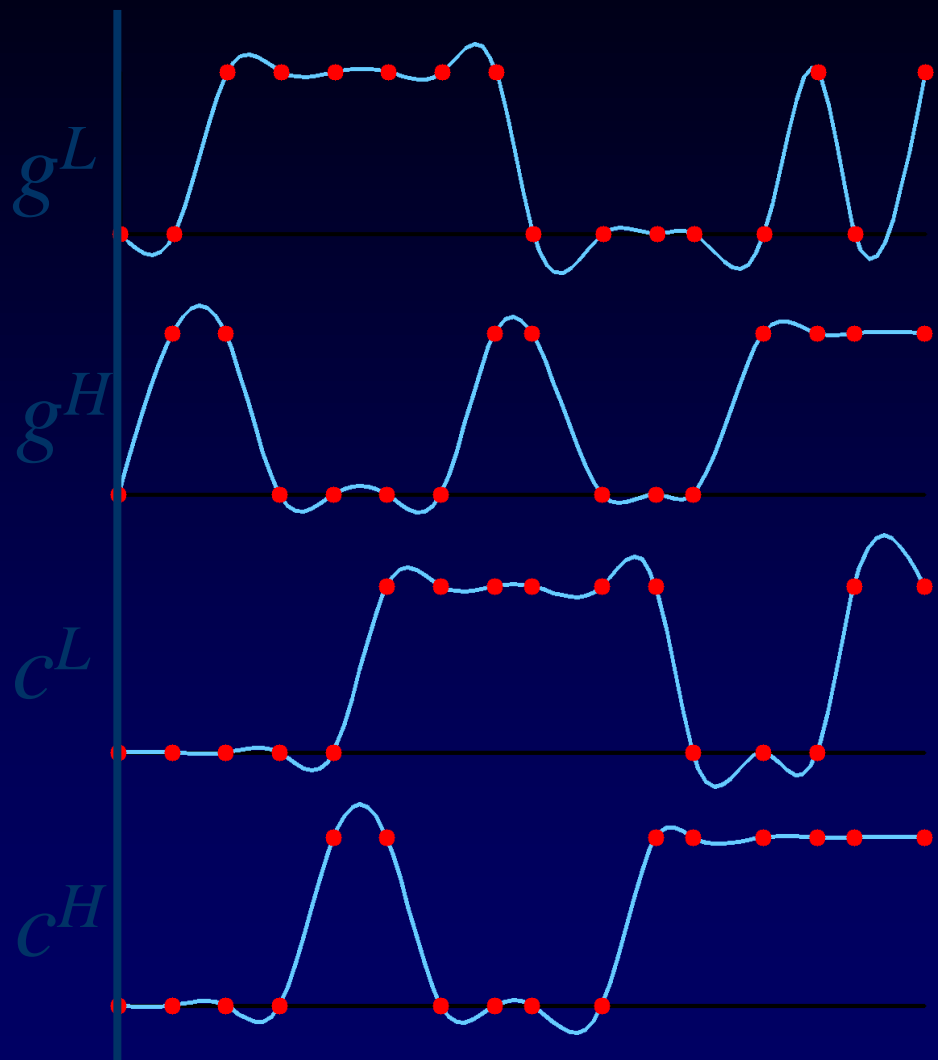


Our results



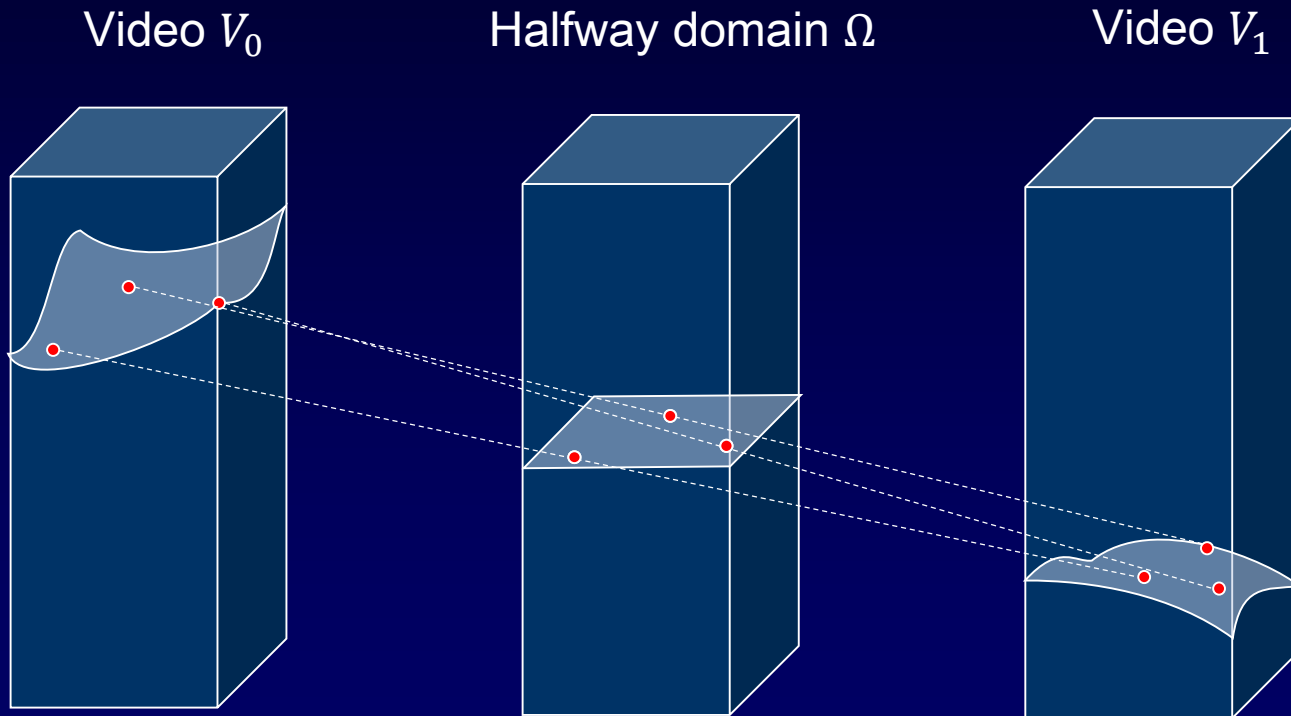








# Video morphing



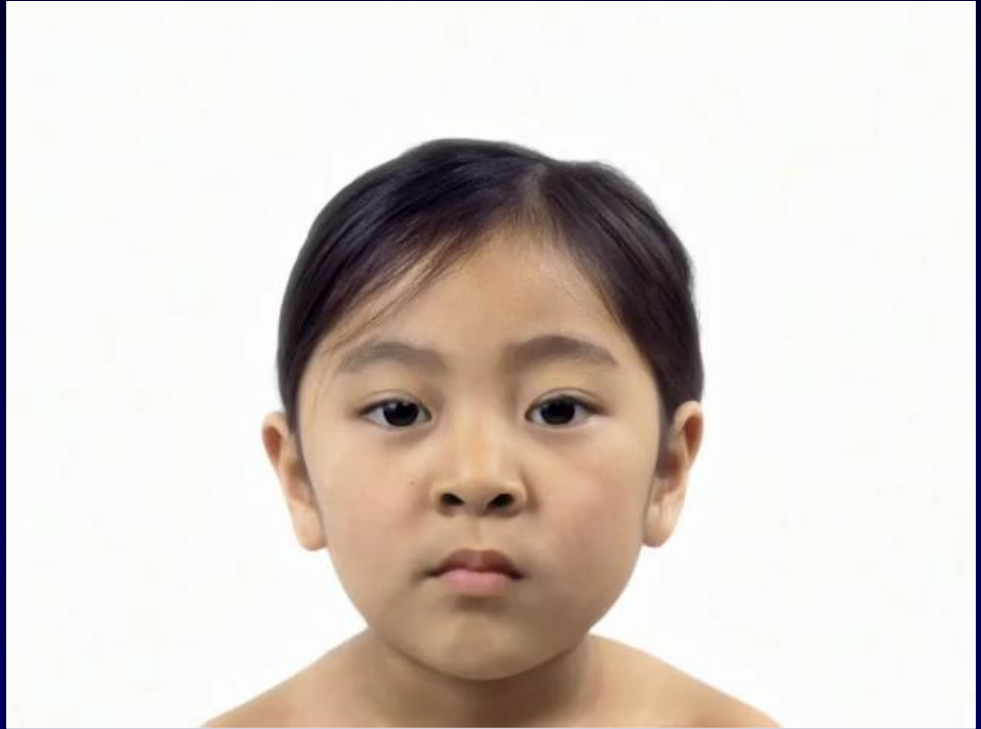


unsynchronized

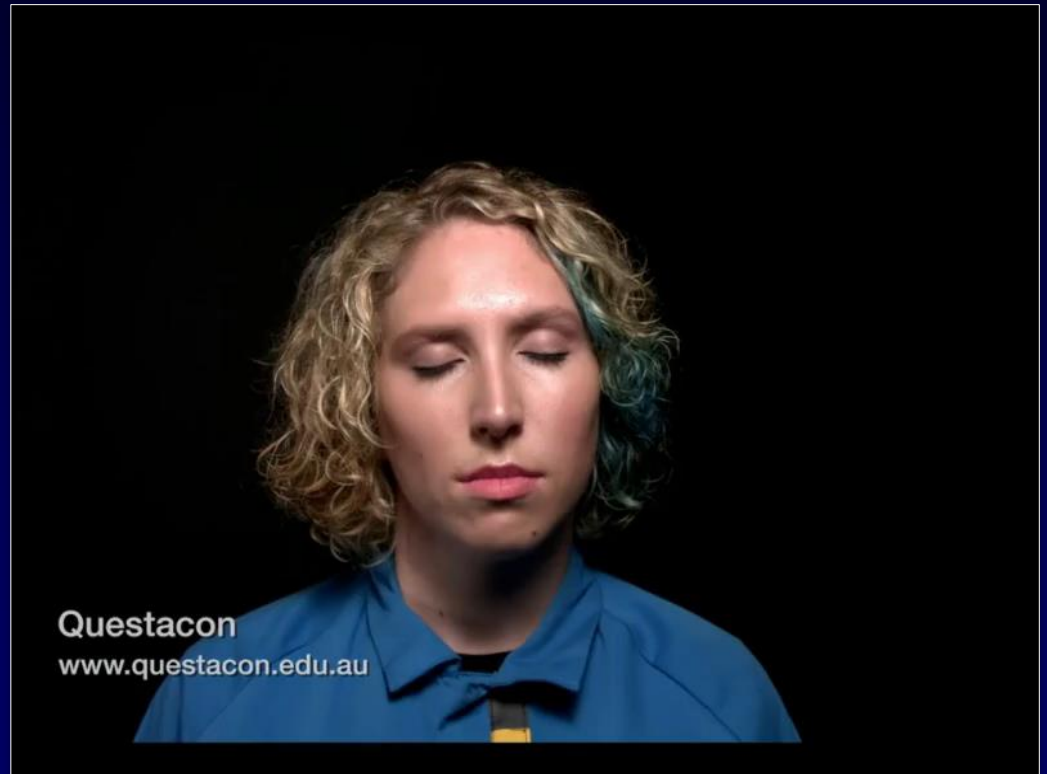


our approach











# Challenges

- How to render different materials realistically
  - How to simplify computation
  - How to manage large amounts of data
  - How to optimize algorithms/simulations
  - How to design and leverage new hardware
- 
- Good blend of math and programming
  - Exciting visual results 😊



