

# Gigabit Application Maker

**Two (or more) people in different places need to \_\_\_\_\_ simultaneously and collaboratively.**

- Perform music (LOLA)
- See each other exercise (Gigabit Fitnet Health)
- See each other in the same space / virtual space (SightDeck)
- Examine and manipulate a 3D design (Could be PlanetIT)
- Interactively view portions of a terabit dataset (or larger) (Pollution Viewer)
- Have a natural conversation (Ultragrid)
- Be coached in a virtual learning environment (Solar education)
- Drive a Mars Rover (which each student controlling a different motor)

**\_\_\_\_\_ would be more effective in low-income areas / schools if they could be made very inexpensive by remoting their intelligence over a gigabit link to a GENI rack**

- VR headsets for experiential education (Solar education)
- Domestic robots (Could be gigabots)
- Senior citizen fall detection systems (Skubic)
- Experiential learning simulations (Mars Rover)

**Visualize user-chosen paths through 3D-displayed big data. (data is too big for local PC or phone or is changing dynamically; user is very interactive so server must respond with low latency and generate appropriate visualizations)**

- (Pollution Viewer)
- (Microsoft Hololens augmented reality projecting data into real space)
- (Could be PlanIT)
- (Could be hyperspectral imaging)
- (Could be User-driven closeups of digitized art objects)
- Fused information from public safety cameras (Wayne police situational awareness)

**Interactive 4K visualization of \_\_\_\_\_**

- Biological objects in a microscope (4K microscope)
- Astronomical objects through a telescope the user positions and focuses
- Realistic educational virtual worlds
- Realistic streaming VR

**High frame rate video**

- Teach lip-reading
- Tele-psychiatry (viewer can see facial ticks) (WeCounsel)

**Interactively remote control \_\_\_\_\_ using feedback from the scene**

- A Microscope (4K microscope)
- a Lab instrument
- a Robot
- Surgical tools
- A simulation of surgical tools
- A deep-brain stimulation waveform

**Make an inexpensive end device look like it costs thousands of dollars.**

- Your cell phone looks like an expensive VR headset when fed high resolution data over a gig link
- Your inexpensive robot becomes a fabulous personal assistant
- An iPad that acts like a VR headset as you walk around with it and hold it at different angles
- Hospital-like EKG processing projected into your home over a gigabit

**Apparently instantaneous response to various stimuli.**

- Simultaneous language translation
- Clothing with built-in airbags inflate when a camera detects you are falling
- Flip pages in a book (10 pages per second) while you can for a section or diagram
- Help searchers find a lost child in reams of aerial surveillance
- Reading tutor corrects mis-pronunciations before the child can read the next word

**Quantitative tele-medicine that's more accurate than typical in-office equipment**

- 3D scans by Kinect-like boxes establish exact body configuration
- Continuous patient monitoring at home (as if in hospital)

**Super-connected community apps**

- Each home PC acts like a server in a city-wide compute cluster
- Take backups to your neighbors' machines
- Shared community DVR (and watch shows you forgot to record but someone else did)