



HIPERWALL

BUILDING A PRODUCT FROM UNIVERSITY RESEARCH

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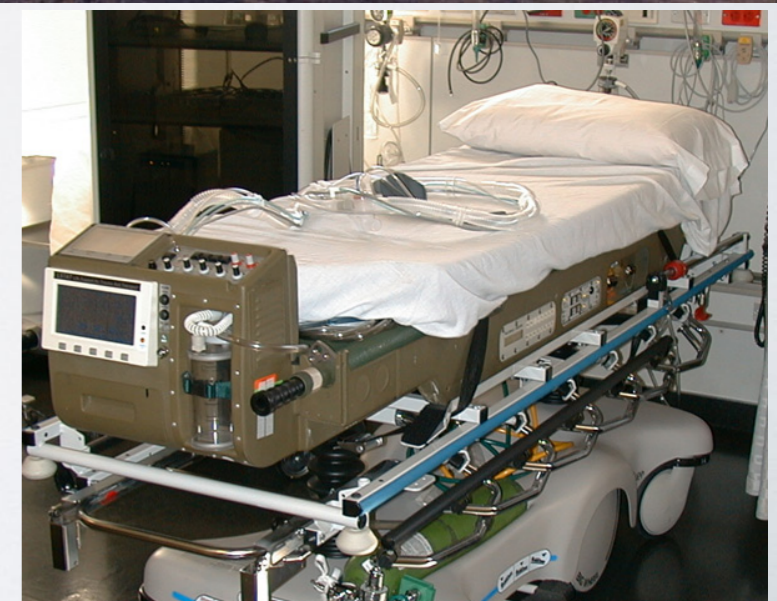
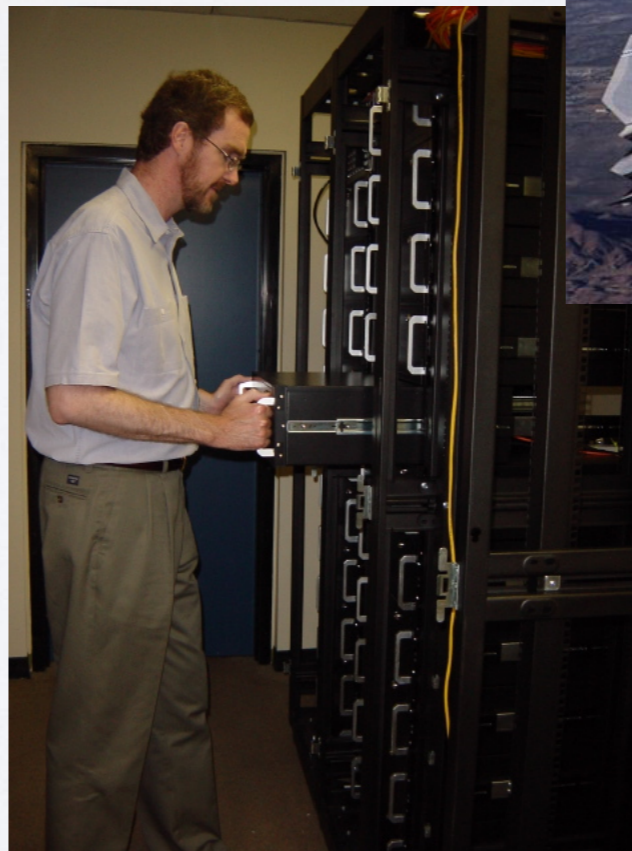
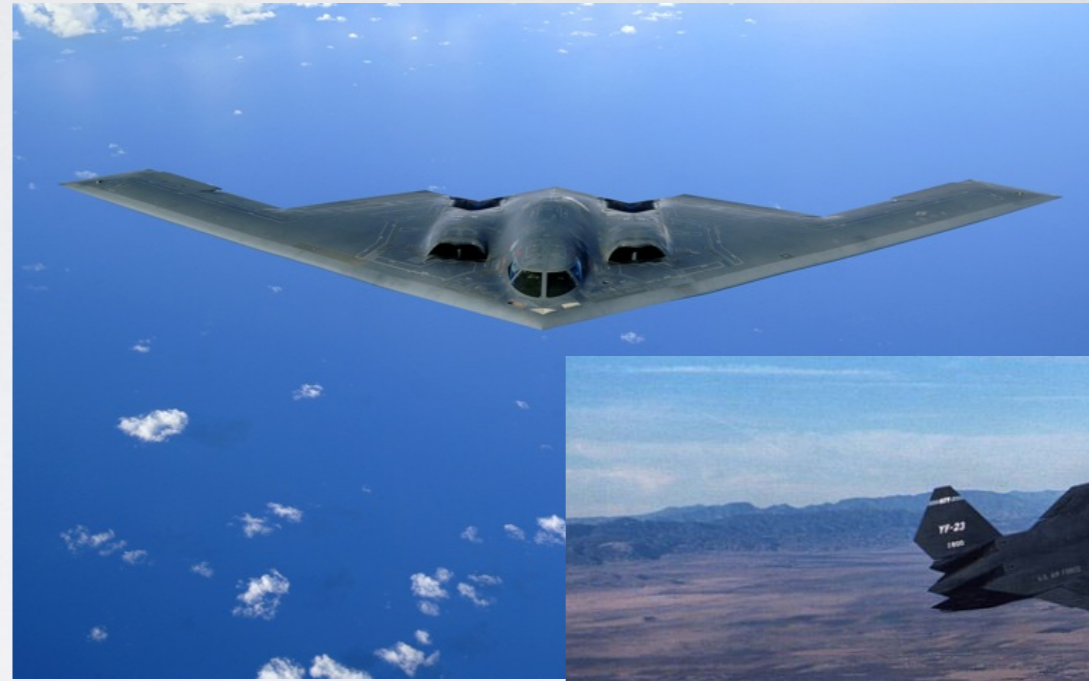
ABOUT ME

- Education

- B.S. EE & Comp.E. Carnegie Mellon
- M.S. & Ph.D. Comp.E. USC

- Experience

- Northrop Grumman-Avionics & Medical Systems
- UC Irvine-EECS Professor
- Hiperwall Inc.-Chief Scientist



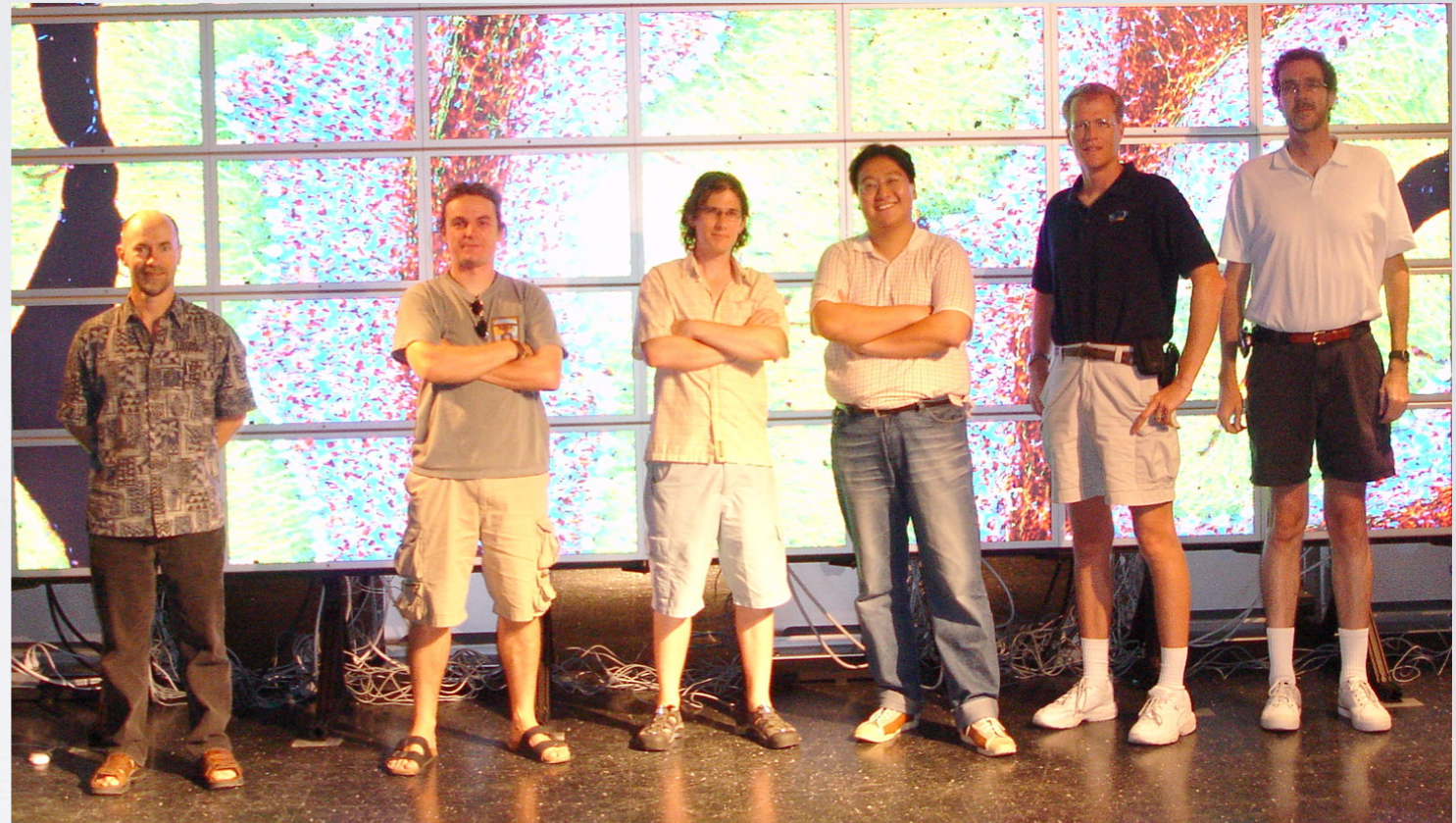
ABOUT HIPERWALL

Founded in 2008
Software based video wall systems
Sold through global dealer network
Sales around the world



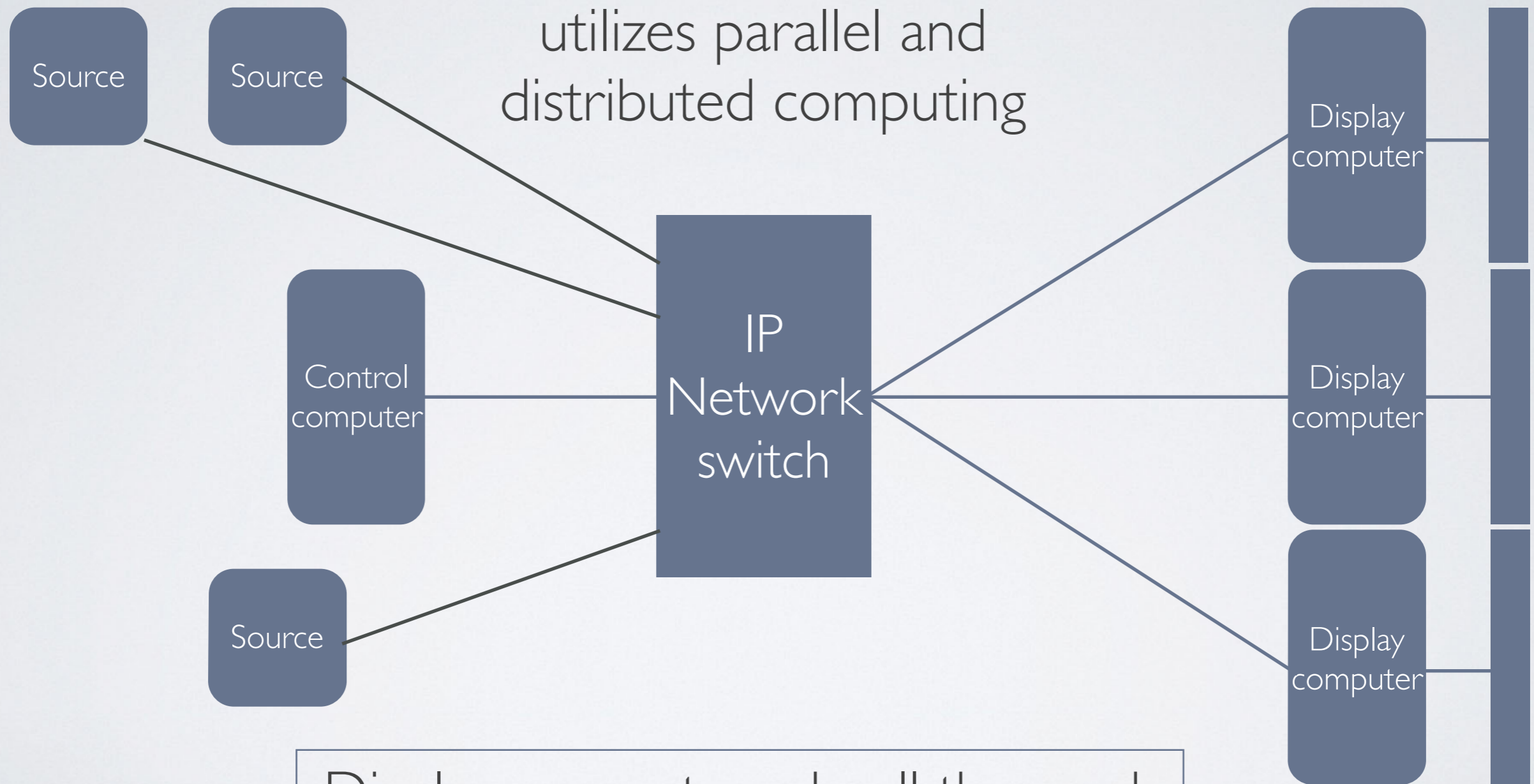
THE BEGINNING

- In 2004, Falko Kuester and I won NSF MRI grant to build world's highest res display
- Highly Interactive Parallelized display Wall (HIPerWall)
- 200 Million Pixels
 - 50 30" Apple Cinema Displays
 - 25 PowerMac G5s



THE TECHNOLOGY

The Hiperwall approach
utilizes parallel and
distributed computing



MEDIA COVERAGE

Sunday, October 23, 2005

The next next big TV

By **TAMARA CHUANG**
The Orange County Register

Researchers at UC Irvine have linked 50 Apple monitors to create a great wall of TV, dubbed the HIPerWall, or Highly Interactive Parallelized display. With it, they can show extremely-high-resolution pictures, like satellite images and aerial photos of the campus.



VIDEO WALL: The HIPerWall team includes, from left, UCI Professor Stephen Jenks, project director Falko Kuester and Christopher Knox, a postdoctoral researcher. The wall uses 50 extremely-high-resolution monitors to effectively form one giant, detailed screen.

LEONARD ORTIZ, THE REGISTER

Why would anyone need this? Medical imaging, climate data and satellite photography that could only be viewed partially or slice by slice can now be seen in detail on the big screen, said Falko Kuester, one of the system's designers and a UCI assistant professor of electrical engineering and computer science.

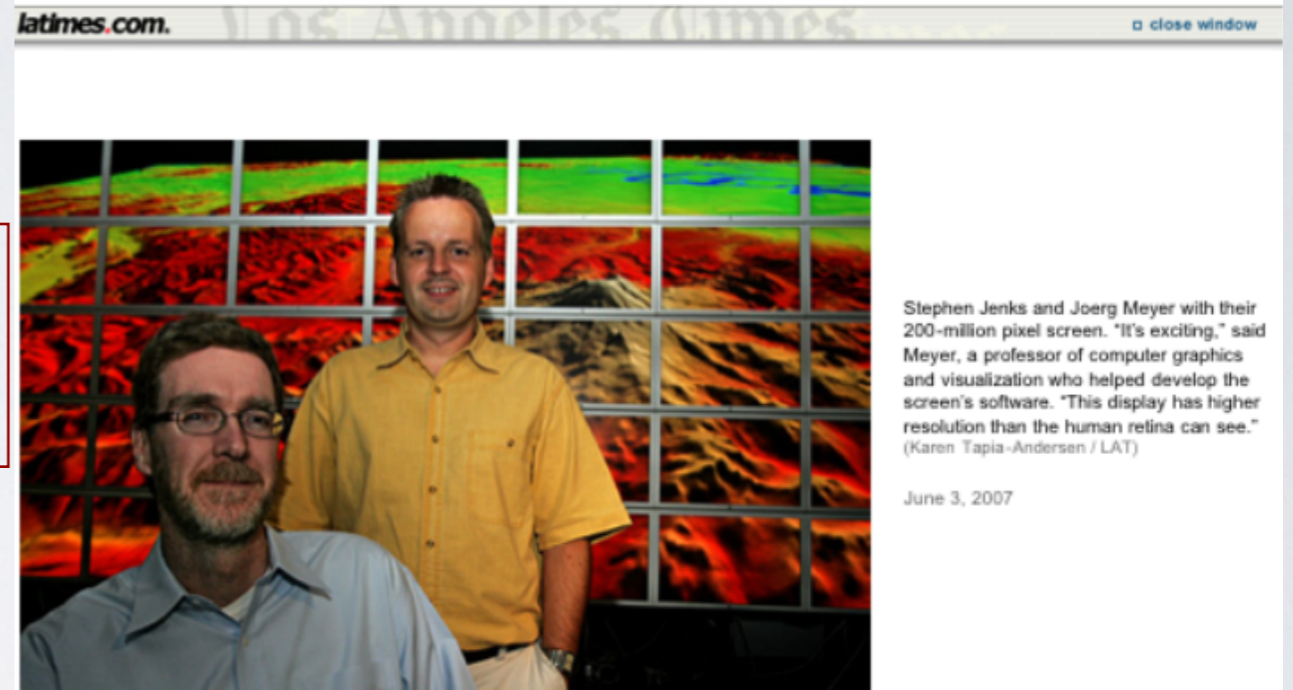
Kuester and his team at the Calit2 Center of GRAVITY (which stands for Graphics, Visualization and Imaging Technology) developed the software that makes the 50 monitors behave as one. The HIPerWall is being used to study geography patterns, such as the damage done by Hurricane Katrina, and to compare details of human brain activity by medical researchers. No need to crowd around one monitor.

"We need to do 3-D," says Kuester, giving a hint of what's to come. "At the consumer level, this could be a smaller package that supports three or four displays. The eventual goal is this will be a wall in your house."

http://www.ocregister.com/ocregister/news/article_726920.php

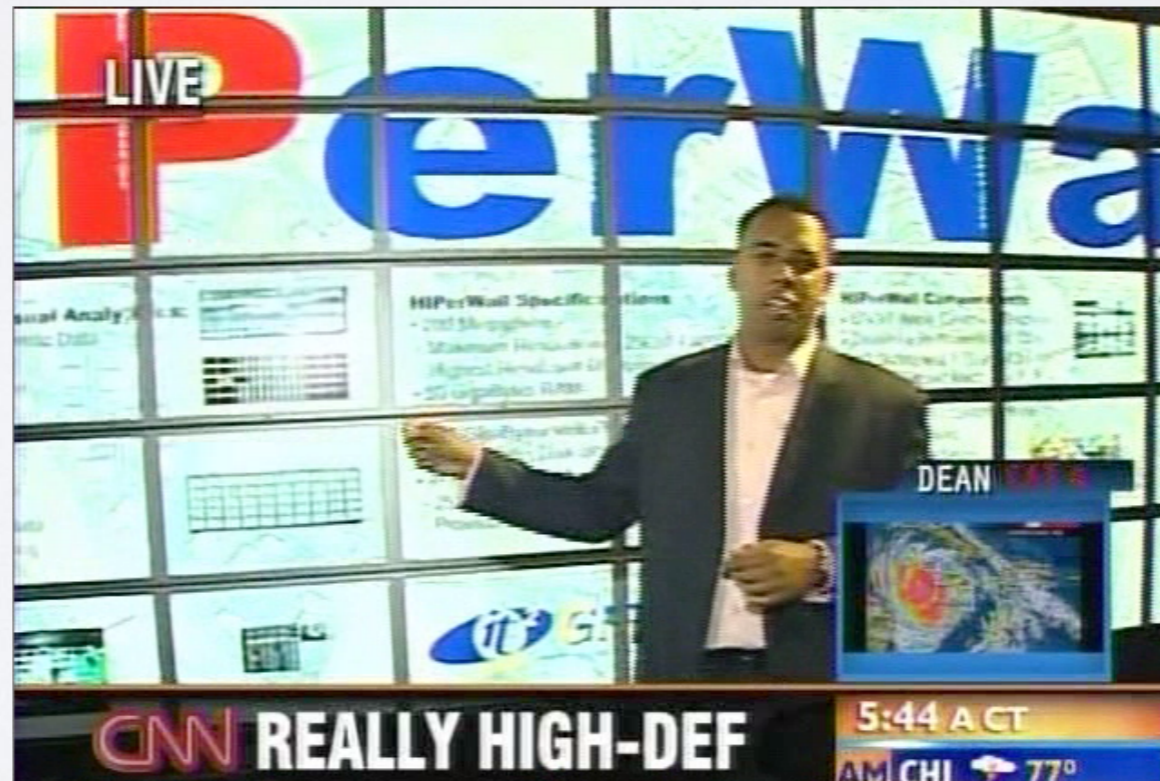
OC Register
10/23/05

LA Times
8/13/07



Stephen Jenks and Joerg Meyer with their 200-million pixel screen. "It's exciting," said Meyer, a professor of computer graphics and visualization who helped develop the screen's software. "This display has higher resolution than the human retina can see." (Karen Tapia-Andersen / LAT)

June 3, 2007



CNN
8/20/07

NEW CAPABILITIES FOR COMMERCIAL MARKET

- Screen Sender - show screen of any PC on wall (web pages, PowerPoint)
- Environments - save and restore the state of the content on the wall
- Slideshows - step through multiple content objects
- Scheduling - content displayed at specific times



Hiperwall Control Panel

Object Properties

Name: images/Chrysanthemum.jpg

Object Zoom: 0.1 1.0 10 [-] [+] 1.00

Object Dimensions (px): 1024 x 768

Current Size (width and height): 1024 768

Object Position: 0.00 0.00

Color Sliders: Red (100), Green (100), Blue (100), Transparency (100), Rotation (0)

Play Control: [Play] [Stop] [Refresh]

File List:

- big_images
- environments
- images
 - Chrysanthemum.jpg
- senders
- slideshows
- startup.jpg
- video_streams
- videos

Actions:

- Snap to Grid
- Maintain Aspect Ratio
- Show Selected
- Close Selected
- Manage Content
- Schedules...
- Save Environment
- Create Slideshow
- Tile All

Content | Status

Buttons: Clear Display, Settings..., About..., Exit

Hiperwall Control Screen

[A1]	IP: 10.0.1.186	[B1]	IP: 10.0.1.134
	MAC: 08:00:27:ce:16:a7		MAC: 08:00:27:30:7b:77
	CPU Usage: 4%		Free Space: 4.99GB
	Free Space: 4.99GB		Connected: 10/03/2010
	Connected: 10/03:46, 5/2/2010		Connected: 10/03:45, 5/2/2010

FRIENDLY USER INTERFACE

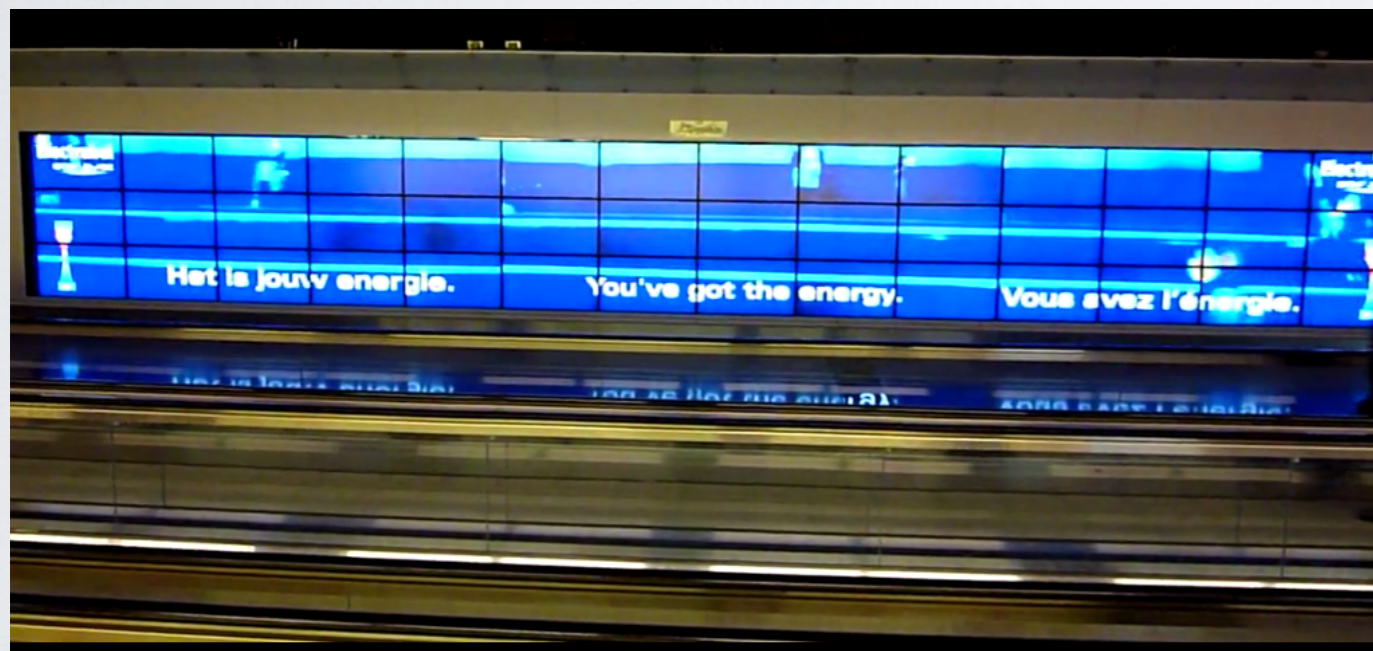
ACHIEVEMENTS



Kenmore Live Studio



Free Speech Display
at Calit2/UCI



Brussels Airport

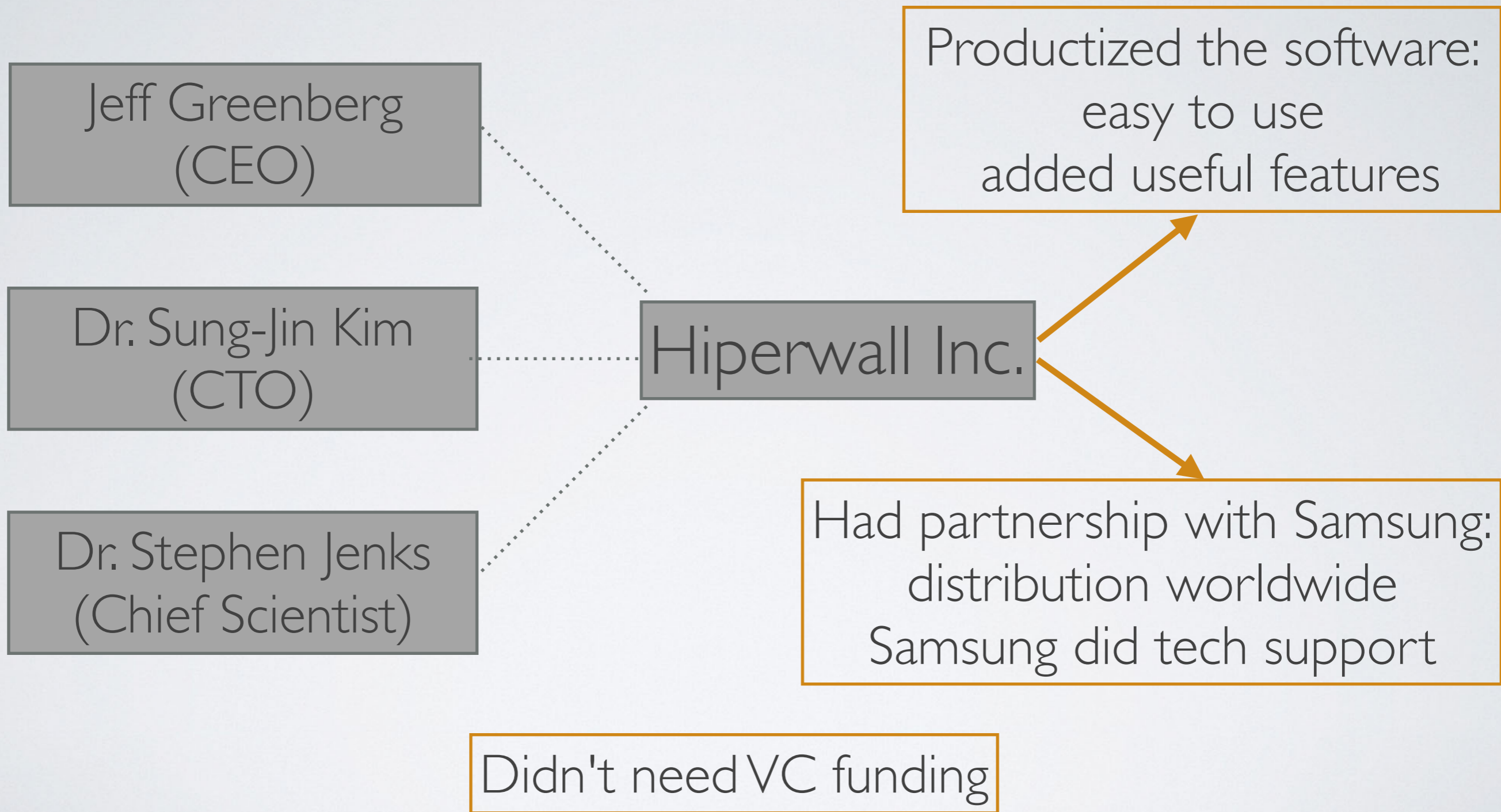
Information Week's Startup of
the Week, 1/24/09



Water presentation to
Congresswoman Napolitano
> 100 Installations Worldwide

HIPERWALL 3 ANIMATION

COMPANY FORMATION



PRODUCT VS. RESEARCH

- Research tests theories and implements ideas.
- Products must work all the time, every time.
- Products **should** be easy to use.
- Products must meet customer needs.
- Products need support.



DIFFERENCES BETWEEN CUSTOMERS AND YOUR RESEARCH COLLEAGUES

- Your colleagues are in the same field and interested in your work.
 - Colleagues know your work is research, so bugs are tolerable.
 - Willing to spent time to learn and evaluate your work.
- Customers are just as committed to what they do as you are to what you do.
 - But the product is a tool to them.
 - Can't spend much time learning it.
 - **Just want to use it!**



CUSTOMER SUPPORT IS CRITICAL

- Customers need someone to call or email if they have problems.
 - Difficult to handle for a startup.
 - Need a phone number, not just an email address.
 - Respond quickly
- We have trained dealers who provide 1st and 2nd level support.

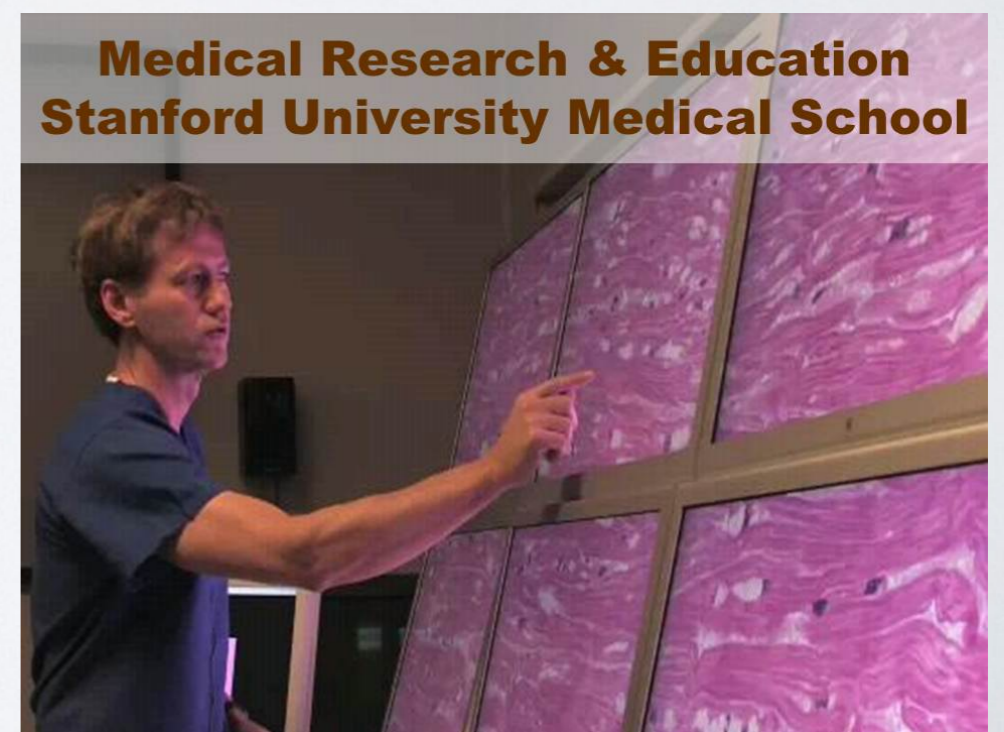
SUPPORT CHALLENGES

- We make software
 - Yet many problems are hardware related
 - Can't control the platform
- Network configuration is a challenge.
- Must have a good manual, even if rarely read.
- Maybe online support tools will help, but depends on customer type.



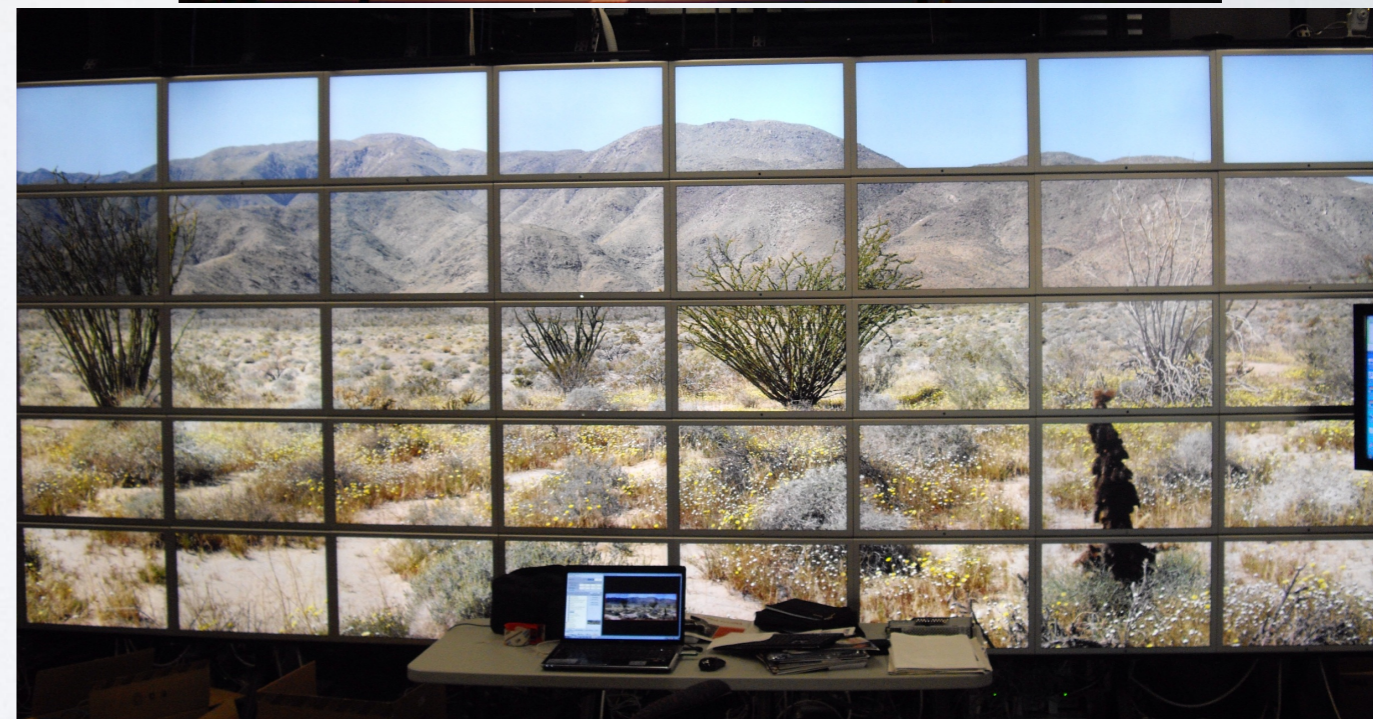
TECH STARTUPS CAN BE ROUGH

- Component company
 - Makes a tech component of a larger product
 - Deals with integrator, not customers (mostly)
 - Not much product control
 - Fewer support issues
- Customer facing company
 - Makes product used by customers
 - Control over features, pricing, distribution.
 - Must support customers and resellers
- You need to be flexible. No "not my job!"
- Personalities can lead to failure.



STARTUP REWARDS

- Startups are a nice change from academia.
 - Working on a product as a team.
 - Quick turnaround to get to customers.
 - Direct feedback on quality and value.
 - Pay tends to be better
- Startups often fail, but the 90% failure rate is misleading.
- Highly recommend a startup
- Make a great product and sell it!



COMPANY INFO



- <http://www.hiperwall.com>
- Twitter: <http://twitter.com/hiperwall>
- Facebook: Hiperwall
- Presentation: <http://www.stephenjenks.com/?p=571>