



*“Making movies is incredibly tedious...
incredibly, mind-numbingly slow”*

— Hugh Grant

Yet, few people think film acting is boring. Not because it isn't, but because it's never portrayed that way.

Computer Science has the opposite problem.

So, What IS the Image?

- *Media* *Negative buzz causes fear, uncertainty, doubt*
- *Teens* *No idea what computing professionals do*
- *Parents* *Fear of no jobs due to off-shoring*
- *Students* *Curriculum is boring and too theory-based*
- *Grads* *No grand challenges left to solve*
- *Recruiters* *Lack of information*
- *Counselors* *Guide students away*
- *Teachers* *Focused on NCLB state testing*
- *Corporate* *Frustrated at not enough talent*
- *DOE* *Says CS is not on the College-bound track*



Existing Image Efforts: A Landscape View

- ✓ Engineer Your Life Consideration, career focus, girls
- ✓ BRT Brainwave Awareness, STEM focus, all youth
- ✓ SIMS Future Potential in IT Inspiration, IT industry focus, HS students
- ✓ Council on Competitiveness Awareness, political focus, government officials
- ✓ iSchools Consideration, recruiting focus, freshman
- ✓ STARS Alliance Retention, community outreach, 20 schools
- ✓ Great Principles Transformational, self-image, academics



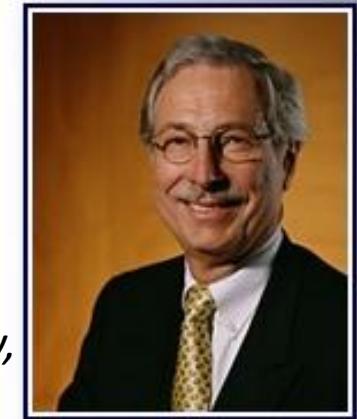
What Can We Do To Bridge the Gaps?

Concern	On one hand	Type of Gap	On the other hand
More people leaving than coming in	Over 55 crowd 4.1% growth	Workforce Gap	Ages 24-54 .3% growth
Complacency vs. Innovation	Professionals content with current work	Generation Gap	Young people are users and consumers
Perceptions vs. Reality	Fear of instability in industry	Reality Gap	BLS Fastest growing occupation 2016
Stereotypes vs. Relevance	Negative social status of computing people	Societal Gap	Unawareness of role of computing in life
Exclusive vs. Inclusive	Perception that it's only for white males	Cultural Gap	Interdisciplinary and diverse opportunities
Consumer vs. Creator	Consumers are users receiving what others have created	Creative Gap	Young people can learn to create or fix things themselves
Aptitude vs. Confidence	People have the ability & interest	Confidence Gap	Still, they lack the confidence to pursue it
Programming vs. Computing	Professors teaching basic skill, not value	Curriculum Gap	Curriculum is boring for students, no creativity

The Image of Computing Task Force



*Co-Chair, Rick Rashid, Sr. VP Research,
Microsoft,*
www.microsoftresearch.com



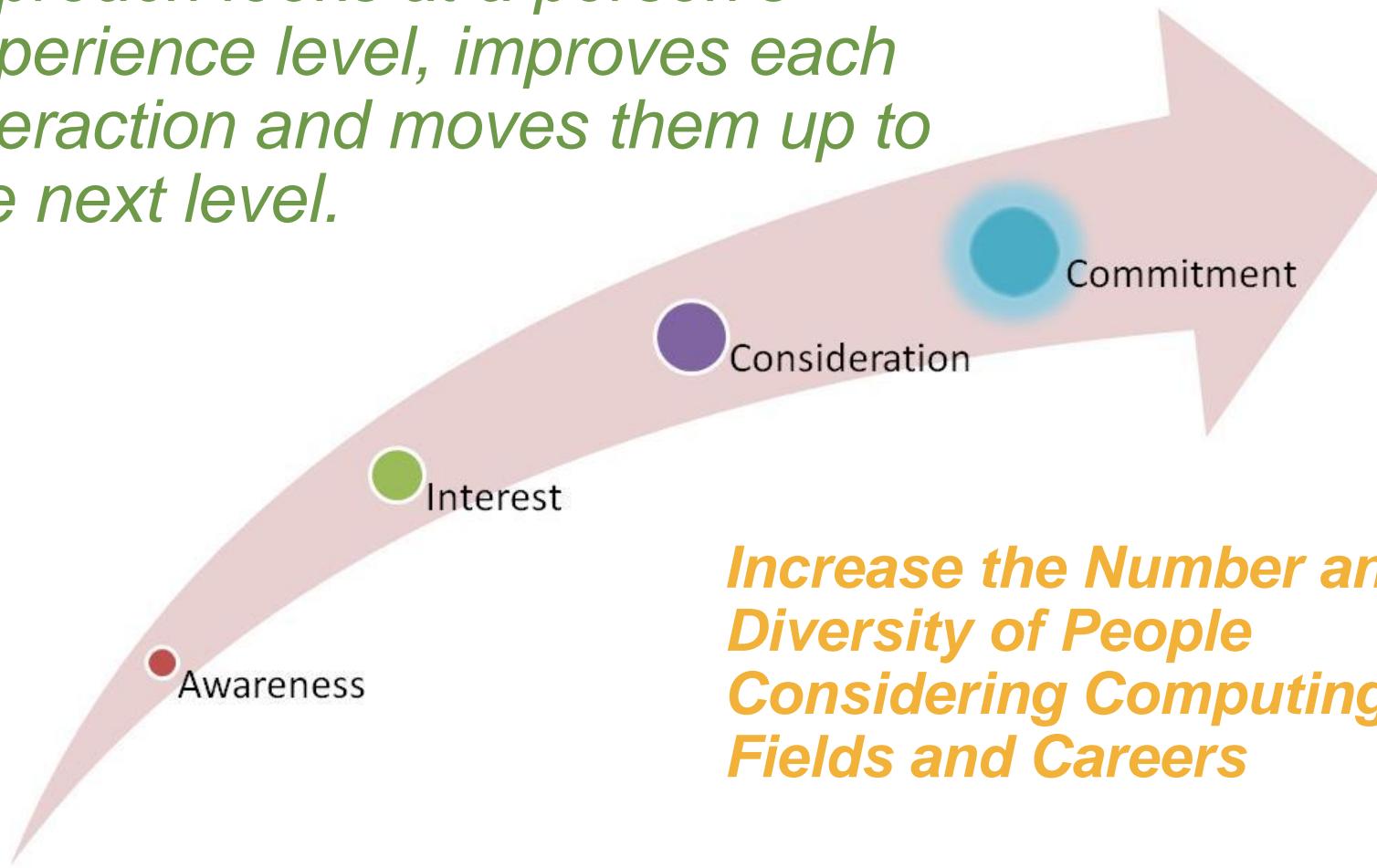
*Co-Chair, Dr. James Foley,
Georgia Institute of Technology,*
www.cc.gatech.com

- ✓ ACM, Association of Computing Machinery,
www.acm.org
- ✓ Association for the Advancement of Artificial Intelligence, www.aaai.org
- ✓ CRA, Computing Research Association,
www.cra.org
- ✓ CSAC, Canadian Association of Computer Science, www.cs.usask.ca./spec_int/cacs
- ✓ Google, www.google.com

- ✓ Hewlett Packard, www.hp.com
- ✓ IEEE-CS, www.computer.org/portal/site/ieeecs
- ✓ Intel Corporation, www.intel.com
- ✓ Microsoft Corporation, www.microsoft.com
- ✓ NCWIT National Center for Women & Information Technology, www.ncwit.org
- ✓ SIAM, Society for Industrial and Applied Mathematics, www.siam.org
- ✓ USENIX, www.usenix.org

Designing the Experience

A relationship management approach looks at a person's experience level, improves each interaction and moves them up to the next level.



Increase the Number and Diversity of People Considering Computing Fields and Careers

A National Campaign for American Teens

“Computing is a powerful partner in achieving my goals”

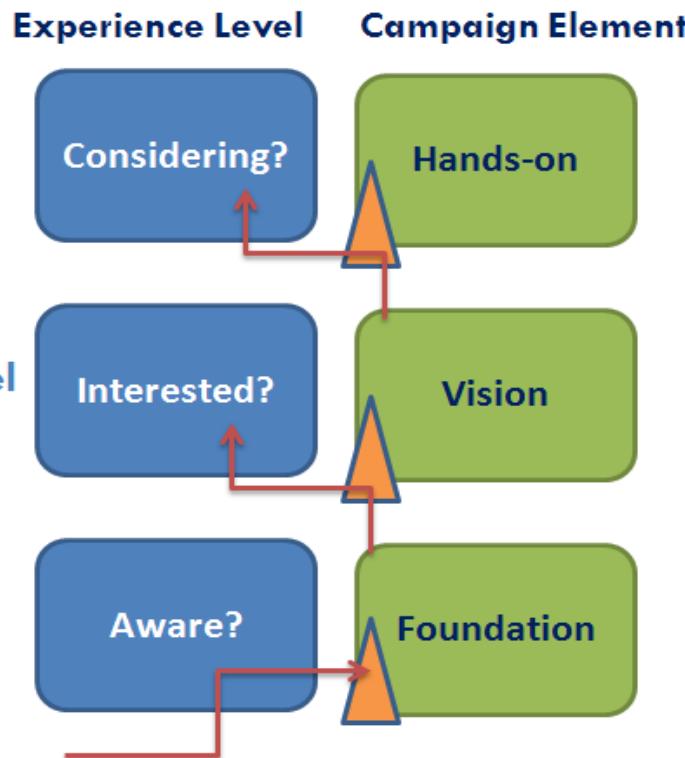
iCompute



Targeted at creative teens ages 13-17

Goals:

1. Increase #s at each level
2. Move teens up
3. Consistent message



National Structure:

- ✓ Digital Library
- ✓ Nat'l Speaker's Bureau
- ✓ Web Landing Pages

Project History

In 2004, 55 engineering groups formed a coalition to explore “*why aren’t college-bound girls choosing engineering?*”

- Less than 20% of students enrolled in engineering degree programs are women, yet more women are now pursuing college degrees than men
- Girls take math and science courses at the same rates as boys, and perform as well as or better

Compelling Engineering Messages

	Appeal to Girls	Boys
Live your life, love what you do	82%	81%
Creativity has its rewards	74%	81%
Make a world of difference	72%	79%
Create possibilities	71%	77%

How we can Inspire Girls

- **Live your life, love what you do.**
Let girls know how much you enjoy your job, and how it reflects what you love in every part of your life
- **Creativity has its rewards.**
Share how imaginative and collaborative engineering is
- **Make a world of difference.**
Talk about what you do and why it matters
- **Explore possibilities.**
Tell girls how an engineering education can prepare them for many careers

Project Resources

- www.engineeryourlife.org
 - Helps high school girls, parents, & counselors
 - Understand the various fields of engineering
 - Learn what an engineer does
 - Find out why engineering is a great career
 - Advise kids about engineering
- Brochures, posters, and postcards
- EYL tables at college fairs
- Training for counselors and engineers

Engineer **Your Life**

Dream big. Love what you do.

A guide to engineering
for high school girls

Why Engineering?
Meet Inspiring Women
Find Your Dream Job
Making It Happen

For Counselors & Parents
For Engineers
For Middle School Girls
(see engineeringirl.org)

Meet Inspiring Women



New Image of Computing

From Computer-Geek to Computer-Chic:

A coalition of partners will create and disseminate new messages to transform the way high school students think about computer science.



Phase I

- Build Coalition of Partners
- Conduct Needs Assessment and Consumer Research
- Develop Messages
- Test Messages
 - Latina women
 - African American Men
 - Moms
- Hold Summit Meetings
- Share Findings with Community



Phase II

- Launch Pilot Project
- Summative Evaluation
- Create a Replicatable Model
- Plan National Role-Out



Questions and Answers
