



IMAGE OF COMPUTING



Jill Ross ~ Image Strategist ~ University of Colorado

Purpose of Today's Session

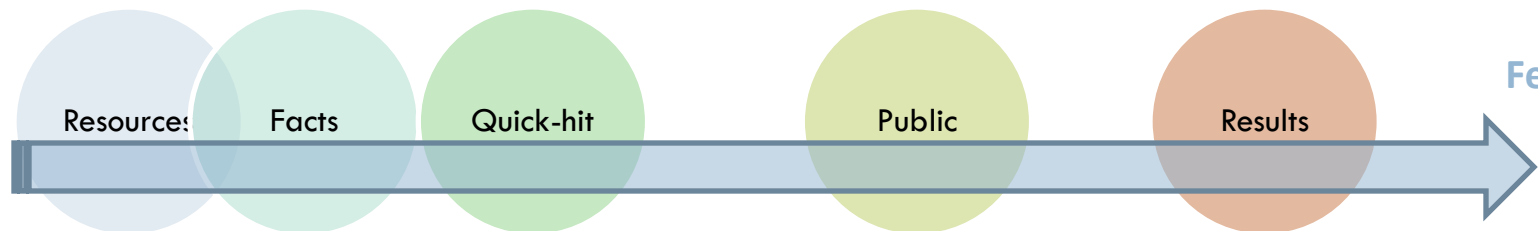


- Share my thinking and methodology
- Propose an initial strategy to spark discussion
- Demonstrate an image campaign for teens

Methodology = Taking Action



Feb 2007



Feb 2008

Resource Coordination

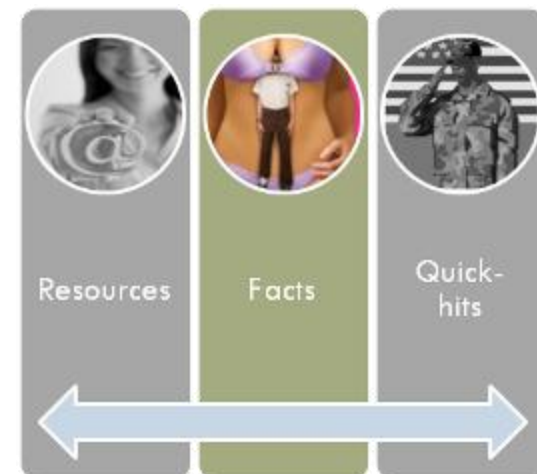
A single place for quality information
on the Image of Computing

- Collaborative effort to inventory, aggregate and filter existing information
- Output from this effort will be web site access to
 - ? quality links and programs
 - ? subject matter expertise
 - ? sign-up for new people
 - ? initiation of joint projects



Facts that Make People Think

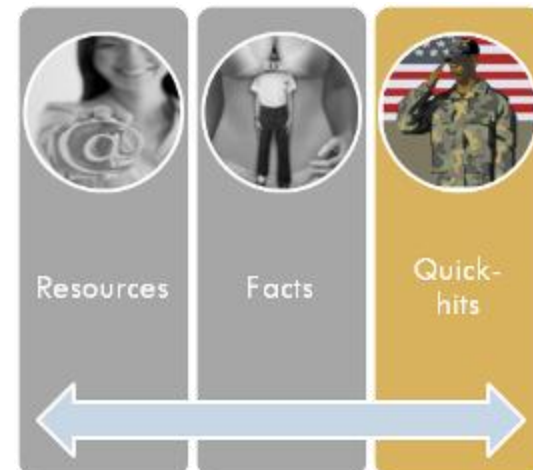
- Leverage existing research after filtering out bias and assumptions
- Ask partners to share their market research on target audiences
- Influence existing focus groups
- Develop a scorecard on progress



Quick-hit Campaigns

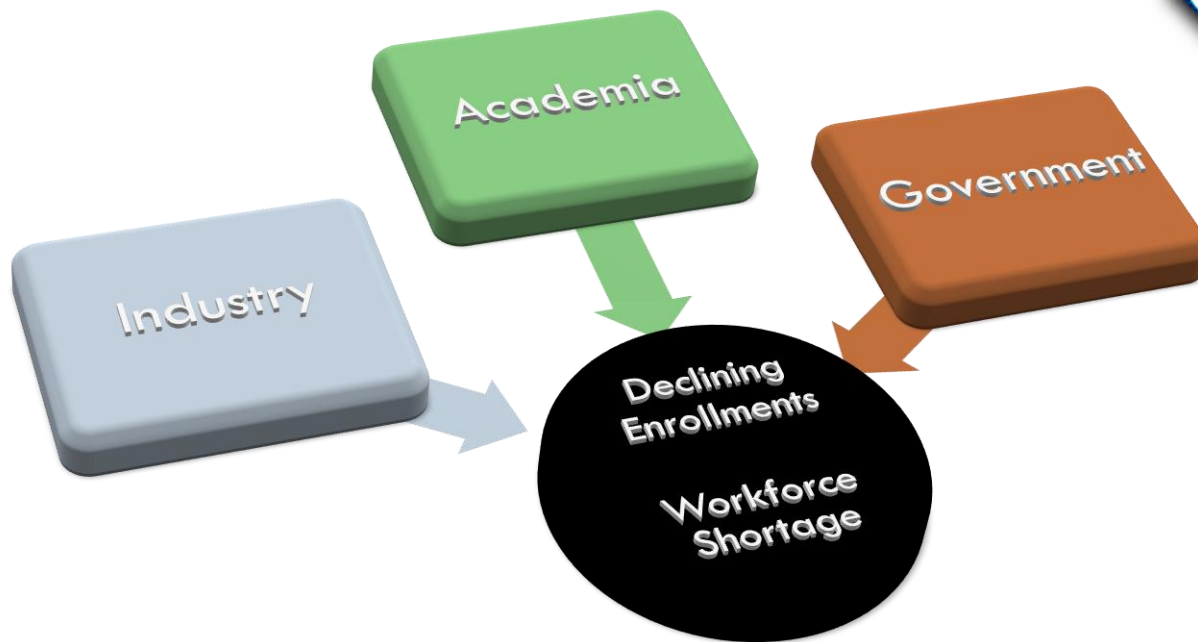
Reach Available People Now!

- Where are there large groups of people with high potential, that given training and exposure, could become a vital part of the U.S. computing workforce?
- Gain experience and visibility



So, What Can We Do?

- Different approaches
- Unclear results



siam



CSTB

USENIX



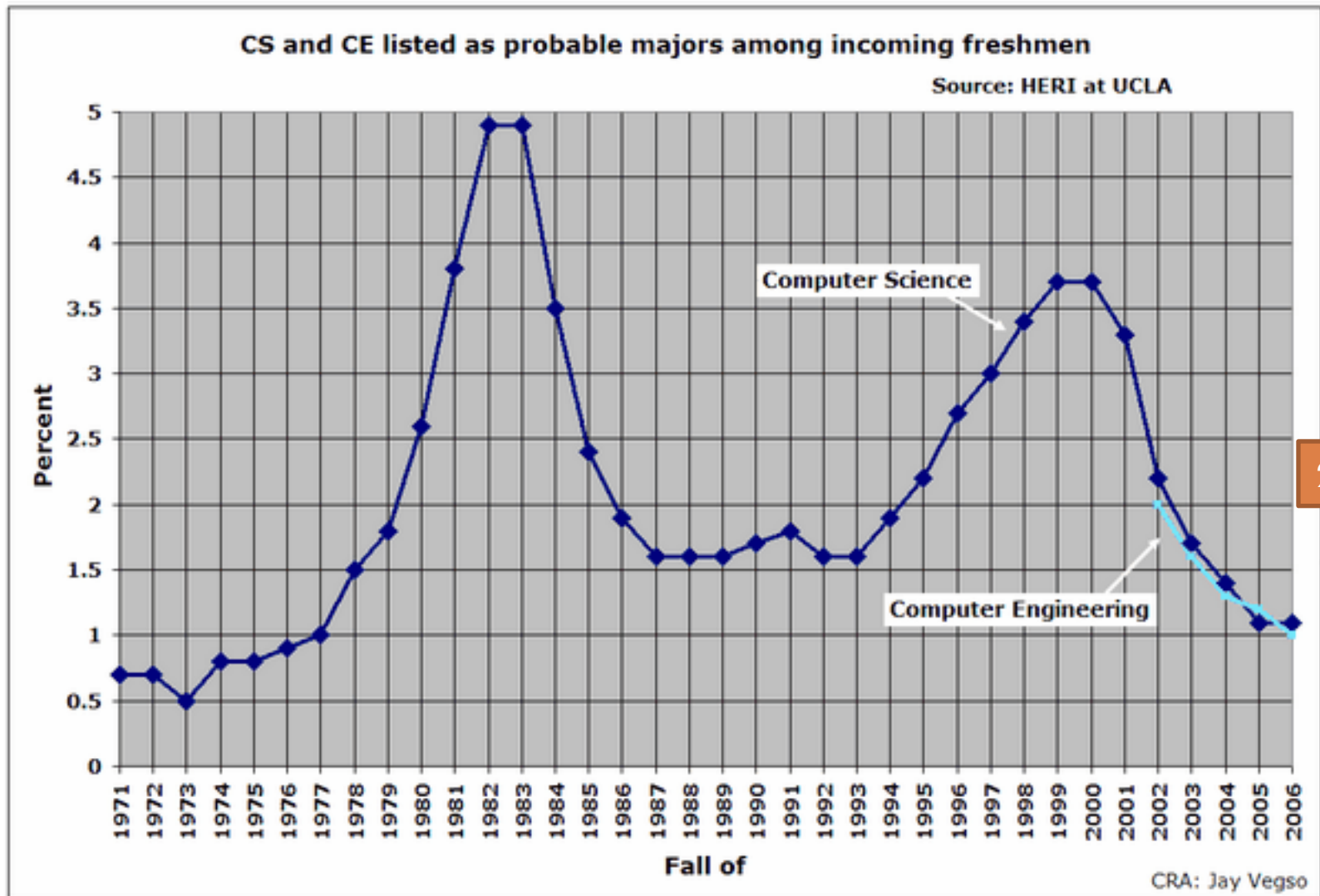
National Science Foundation
WHERE DISCOVERIES BEGIN

Microsoft®



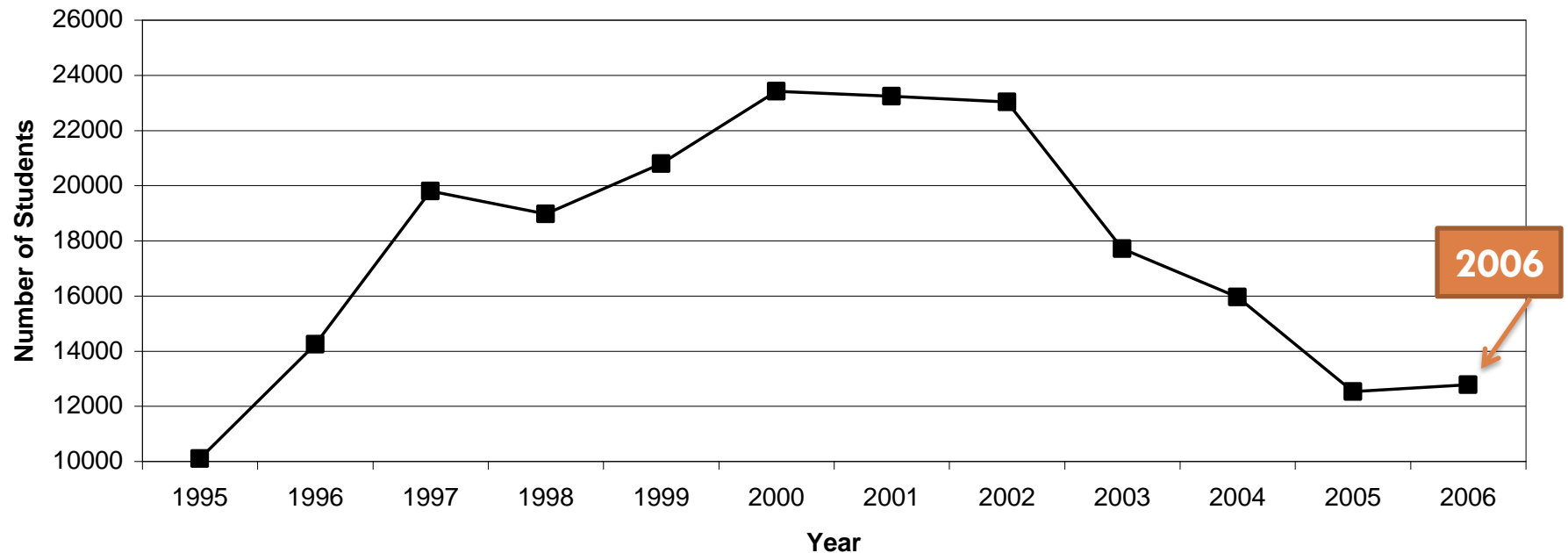
Google™

Only 1.1% of Incoming Freshman



Taulbee Study 2007

Figure 7. Newly Declared CS/CE Undergraduate Majors



Media Focus on Computing Disasters

Untrustworthy:

- On-line commerce
- Identity theft

Unethical:

- Predators on Myspace.com & Second Life
- A virtual world has no consequences

Irresponsible:

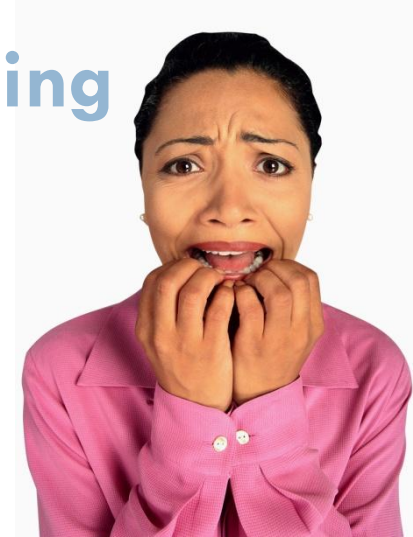
- Virus, bug, spam



Group Views of Computing

People who are considering Computing

- Fear loss of work to offshoring
- Massive layoffs from dot com bust
- Unclear what they will actually study



Those who selected other disciplines view Computing as

- Sitting at computer all day in isolation
- No application to real-world issues



Teen Views: Are We Too Often Assuming a Negative Image?

Reasons Against CS:

1. Sit at computer
2. Chose different major
3. Isolated from people

Reasons For CS:

- Boys = Gaming
- Girls = use in another field

Study of 836 students with aptitude for CS

- 33% had formal education
- 13% had no experience at all
- 80% had NO IDEA what CS Majors learn

Lori Carter, PLNU



Individual View of Computer Science



Jerry Guo, Age 16

*Jan 2007 Teen of the Month,
iParenting.com*

Wrote anti-SPAM filter
Won \$50,000 scholarship

Thinks CS = “programming”
Plans to study Molecular Biology

Tap into Emotion to Drive Action

- ❑ College freshman want to change the world
- ❑ CS graduate students want grand challenges
- ❑ Mid-life career transition want purposeful work
- ❑ Physically disabled want independence
- ❑ Teens want role-models to identify with



A Proposed Strategy

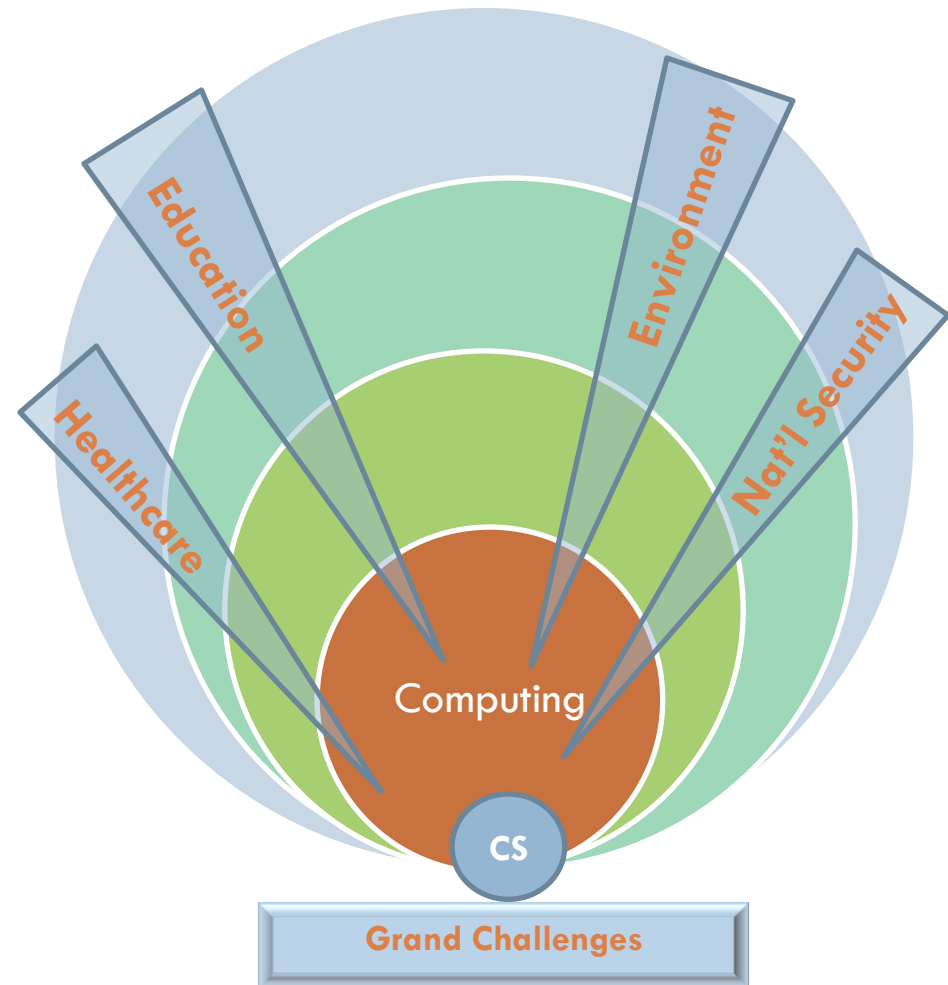
Computing. It's about people.

Break down stereotypes

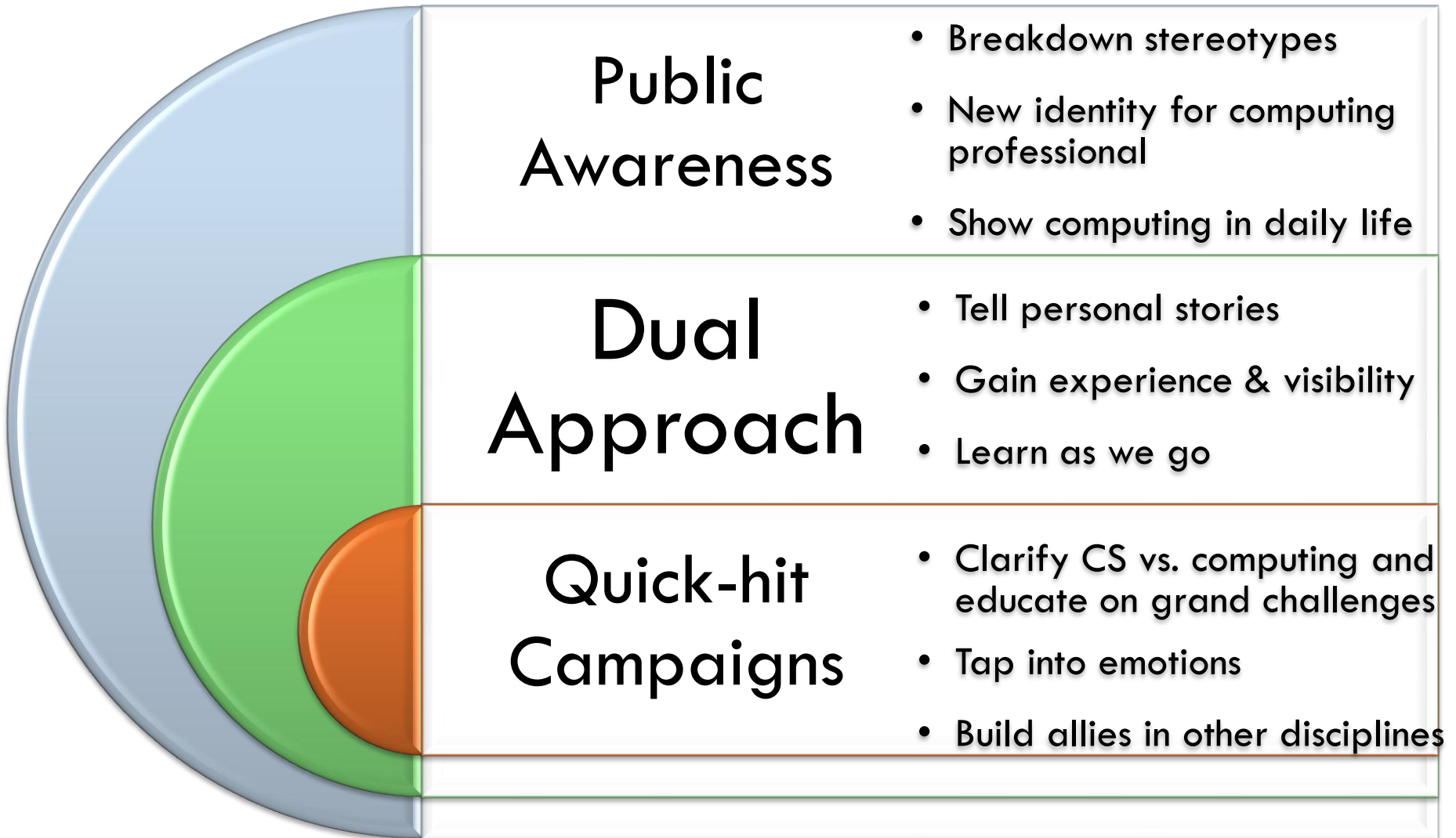
Nurture computing in other disciplines

Personalize computing

Clarify CS vs. computing



One Strategy – Dual Approach



Your Role:

Strategic Questions for Consideration

1. Should we create a profile of the new computing professional?
2. What other analogies exist to changing public image? (ex. anti-smoking, green, red, pink campaigns)
3. What are the quick-hit audiences that will have the biggest impact in 2007?

Call to action

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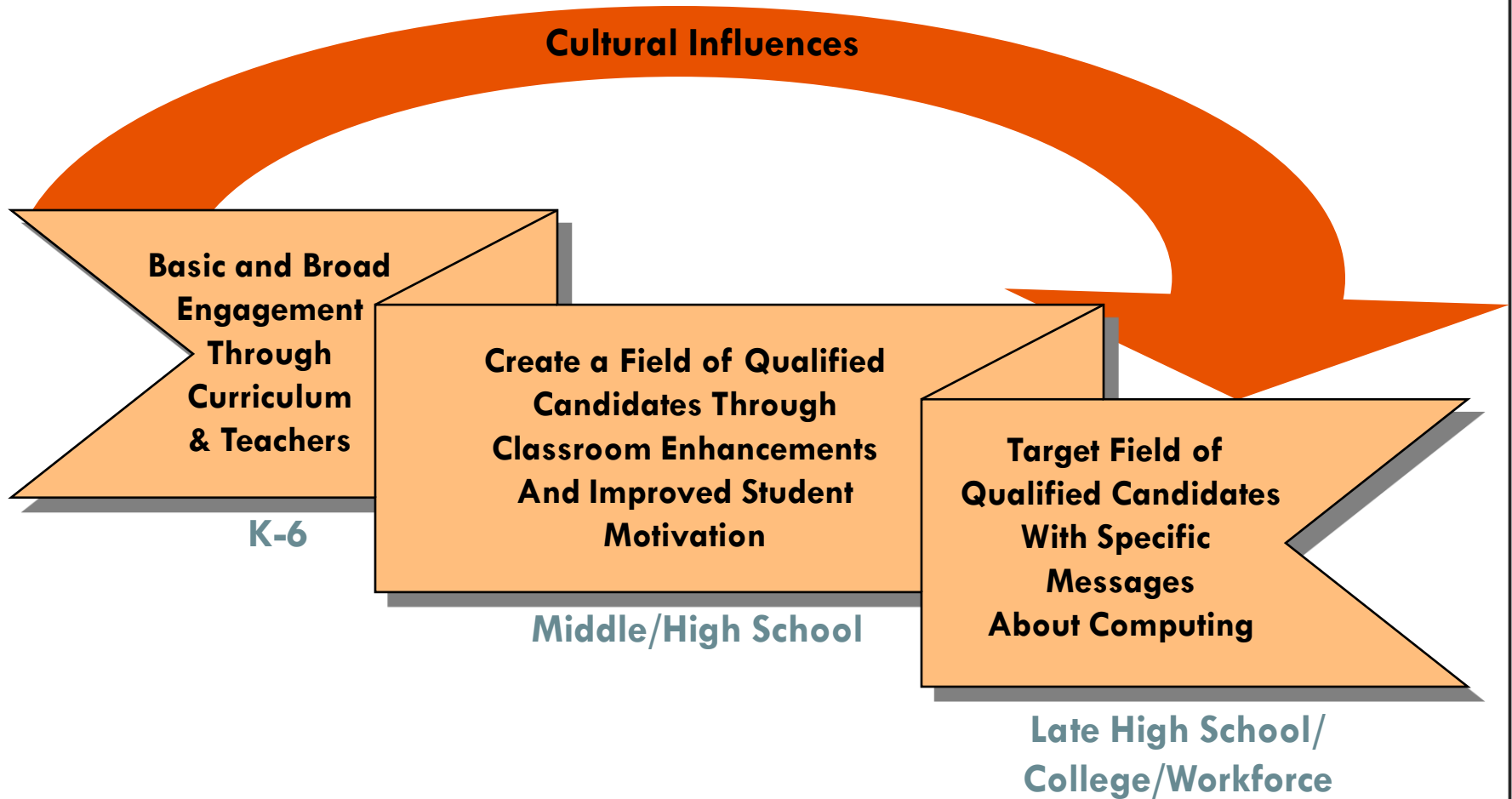


- Wanted
 - ❑ One person from each association
- Your Role
 - ❑ Eyes and ears for image buzz
 - ❑ Speaking engagement opportunities
 - ❑ Press names and journalists you know
 - ❑ Individual noteworthy accomplishments
- Getting it right with teens
 - ❑ North Castle, Clif McFeely & Julie Stenz

Interest and Ability Walk Hand-in-Hand



An Effective Effort Requires Continuity





Connecting Teens to Math & Science

A Marketing Approach



The Math & Science Puzzle



CURRICULUM

TEACHING

OUTREACH

R&D MONEY

???



CURRICULUM

TEACHING

OUTREACH

R&D MONEY

STUDENT MOTIVATION



Project Objective

Develop strategy/plan to use power of marketing communications to motivate teens.

North Castle Teen Panels – qualitative input and discussions with 162 teens representing 22 schools in the Northeastern US and Texas.

- High Math & Science interest
- Low Math & Science interest
- High School
- Middle School





North Castle's "Basic Instincts" model—a strategic “best practice” approach to teen marketing communications.



How would marketers like these
approach student motivation?



How would marketers approach student motivation?

-  Define the problem/challenge
-  Understand what really motivates teens
-  Find “common thread” solutions, but . . .
-  Think segmentation

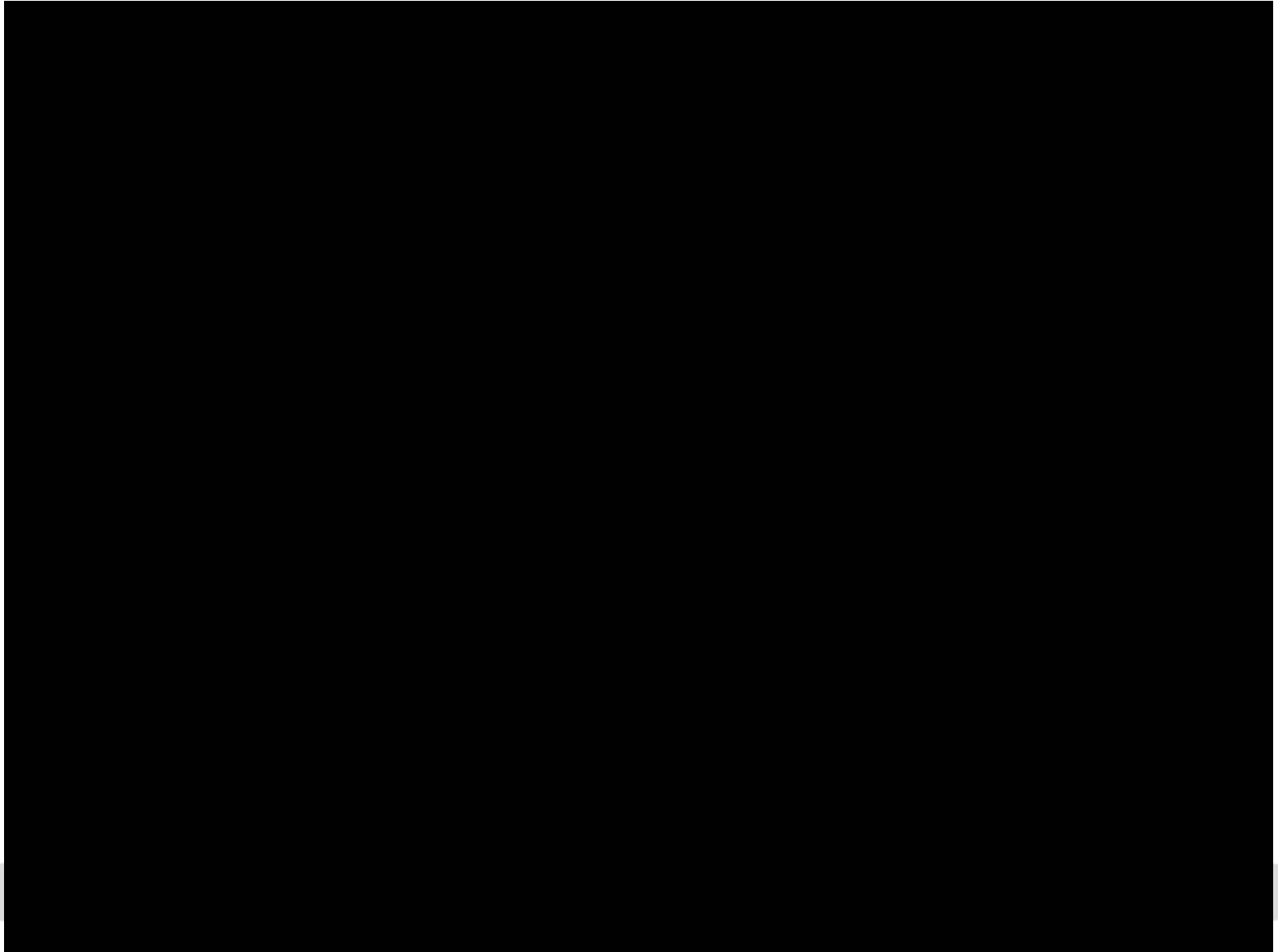


The Marketing Challenges

1. Math & Science occupy low status/low relevance in teen culture



Low Status/Low Relevance



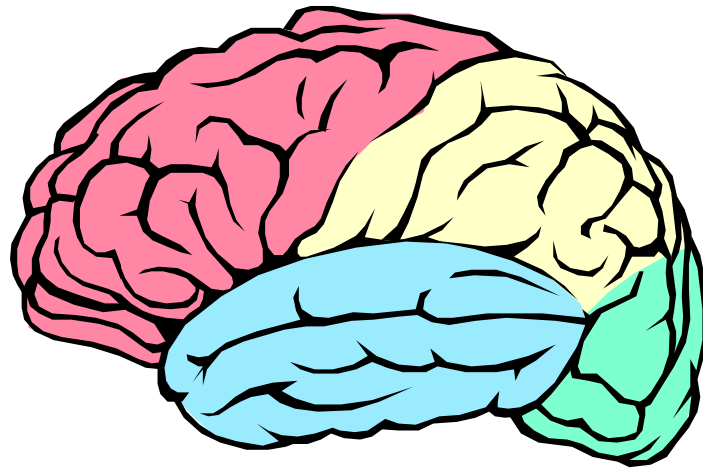
The Marketing Challenges

2. The “voice of authority” is not an effective tool . . . but Math & Science is seen as the “voice of authority.”



The Marketing Challenges

3. Teen brains are different—they process information differently



Attitudes and actions are often driven not by logical straight-line thinking, but rather by emotionally-based “basic instincts.”



TOP TEN

TEEN BASIC INSTINCTS

5 NICE

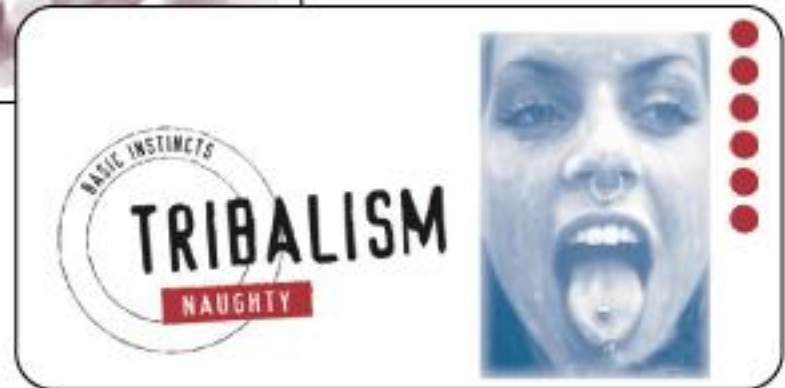
5 NAUGHTY



Five Nice



Five Naughty



The Marketing Solutions

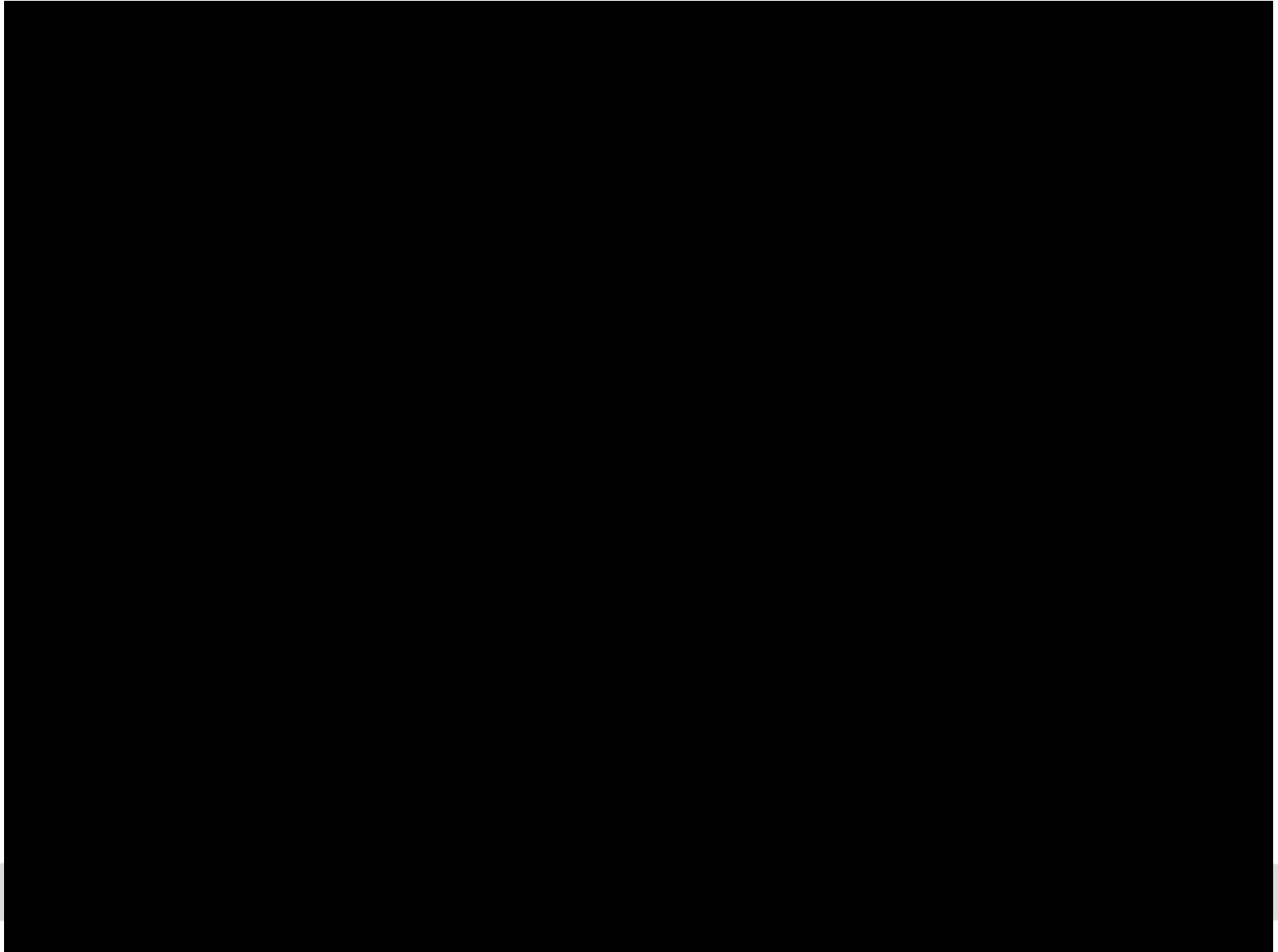


Status
Relevance
Power

Create a Brand Voice
for Math & Science!



Connect the Dots



The Marketing Solutions



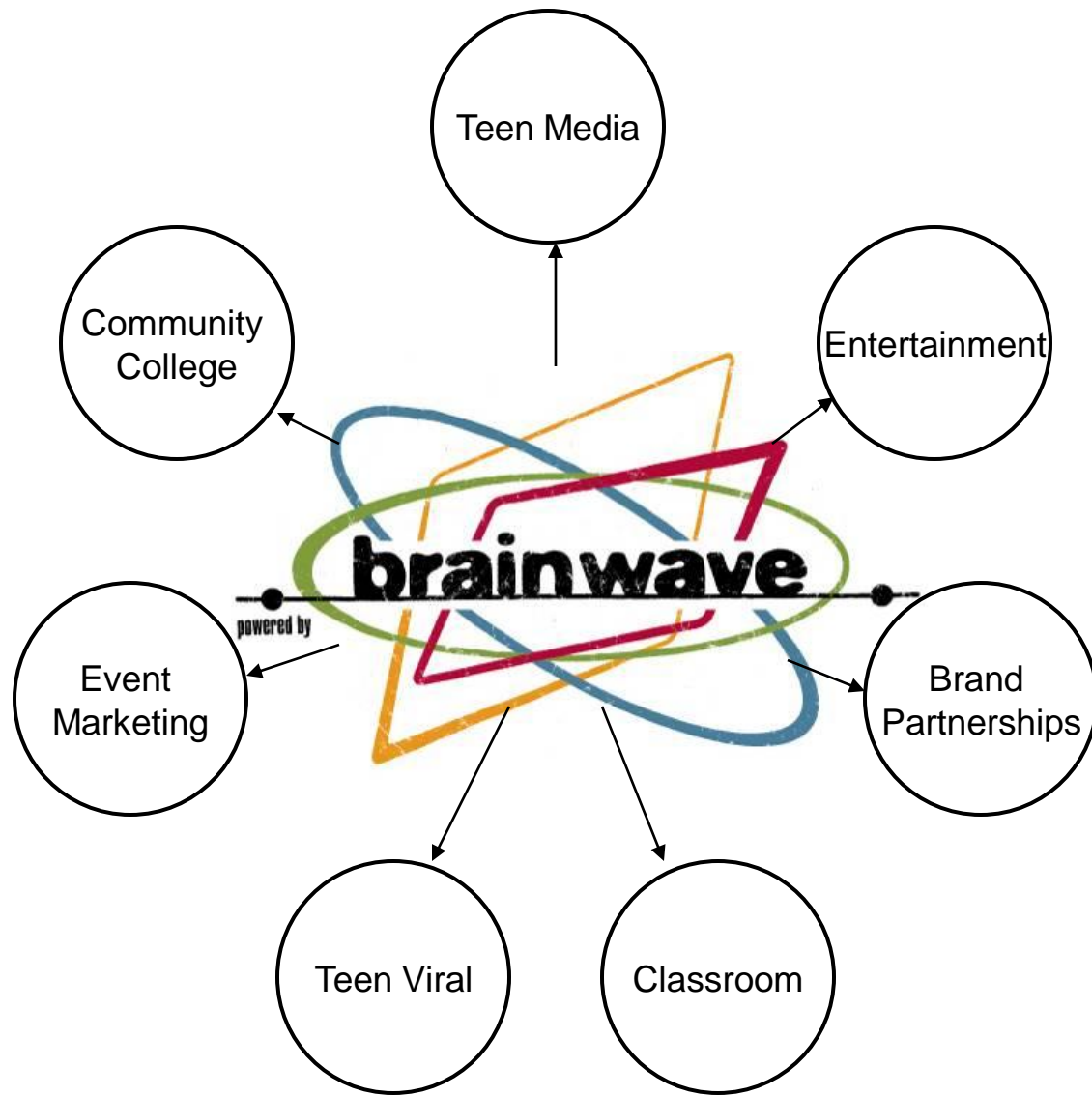
“Math & Science powers virtually everything in your life.”

**Math & Science
Knowledge is Power**



Proposed Brand Solution





The Marketing Solutions



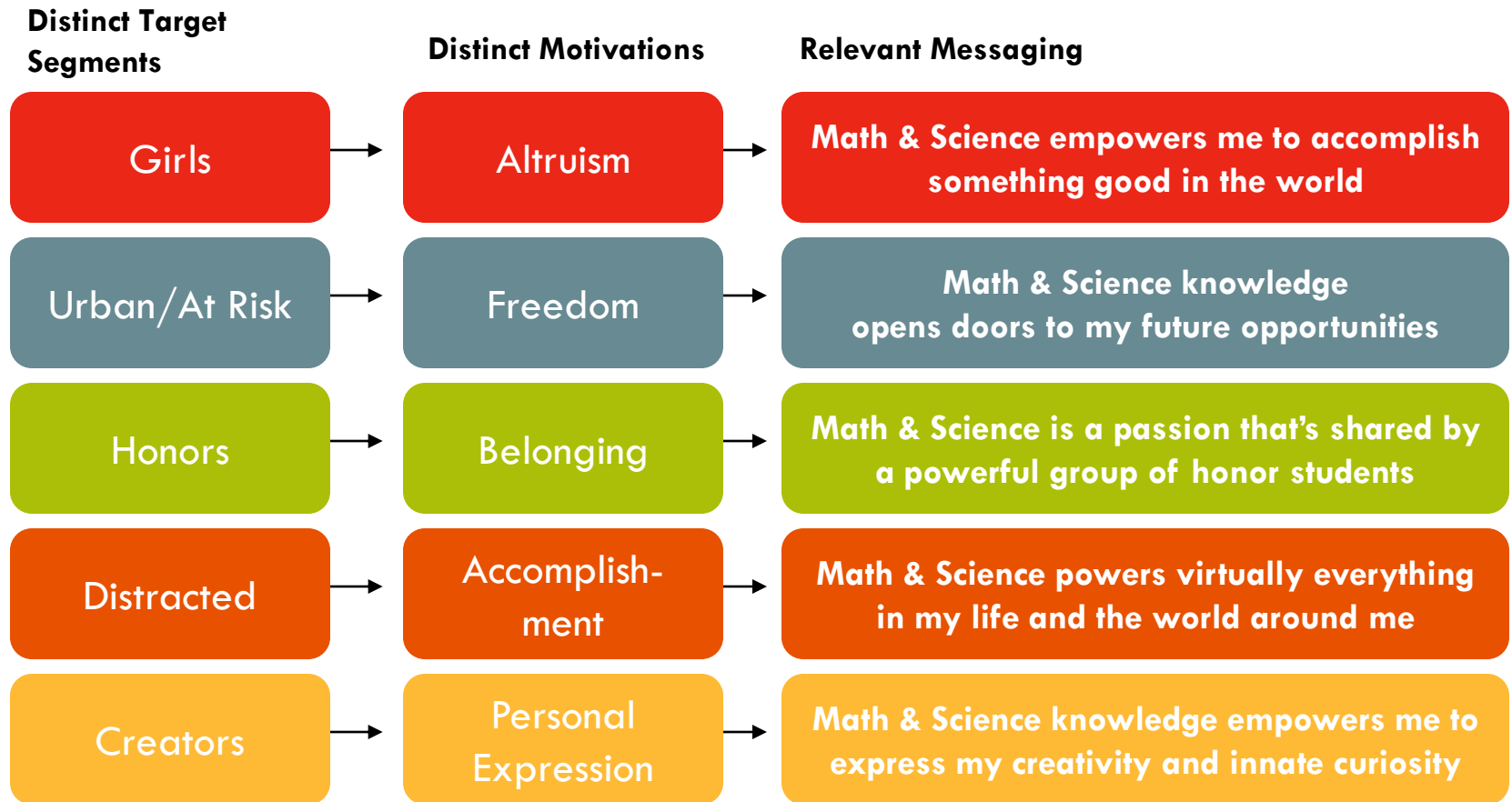
**How can we recognize
different backgrounds,
interests, skills and
motivations?**

Segmentation

- Target specific teen audiences
- Answer the question “How does Math & Science knowledge empower me?”
- Apply appropriate “Basic Instincts” motivations for messaging



The Marketing Solutions



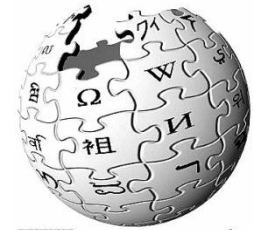


**Local Market
Implementation**

**Custom
Segmented
Program
Sponsorships**

**National
Digital
Presence**



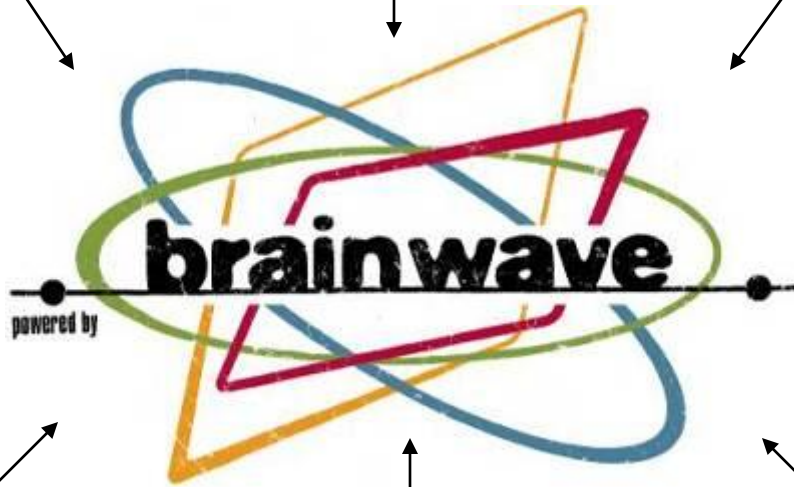
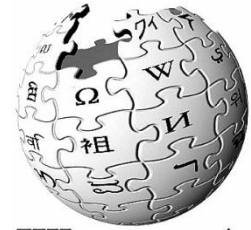


WIKIPEDIA



Math & Science Knowledge is Power





Connection Between The Image of Computing and Math & Science Education

The BrainWave program and Computing image objectives are inextricably linked

- Successful lift-off for the overall BrainWave campaign essential to fill the pipeline with qualified H.S. graduates
- Conversely, part of BrainWave strategy centers around promoting all STEM career opportunities

Through connecting teens to the accomplishments of Math and Science, we can also connect them to the wonders of Computing

- Compatible overarching strategy – connecting people to benefits and accomplishments
- Overlay of specific Computing messages





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