CSTA in NJ
Our Next Steps

Daryl Detrick  detrickd@warrenhills.org
Computer Science
The Opportunities

“We need students to be innovative creators of technology, not just passive users”

Chris Stevenson
CSTA Executive Director
Where the STEM Jobs Will Be
Degrees vs. Jobs Annually

- PhD Degrees
- Master's Degrees
- Bachelor's Degrees
- Associates Degrees/Certifications
- Annual Jobs 2010-2020

Where the STEM Jobs Will Be
Projected Annual Growth of STEM Job Openings
2008 - 2018 STEM Jobs Will Be

Percentage Of New STEM Jobs By Area Through 2018

- Computing: 71%
- Software Engineering: 27%
- Systems Analysis: 10%
- Database Admin.: 2%
- Computer Networking: 21%
- Computer Support: 7%
- Other: 3%
- Math: 2%
- Life Sciences: 4%
- Traditional Engineering: 16%
- Physical Sciences: 7%

Statistics

• Each software job yields 4.3 additional jobs.

• 67% of software jobs are outside of tech industry (banking, retail, government, entertainment)

Source: Hadi Partovi’s keynote speech at CSTA Conference 2013
“Educating students for the jobs of the past is a recipe for both economic and social disaster.”

Chris Stevenson
CSTA Executive Director
Calculus represents the combined data of Calculus AB and BC. Physics represents the combined data of Physics B, C:Electricity and Magnetism, and C:Mechanics. Computer Science represents combined data of Computer Science A and B.
High School Advanced Placement Exams 2011

Percent of Bachelor's Degrees Awarded to Women, U.S.

Source: NCWIT via US Department of Education IPEDS
OPPORTUNITY

1,000,000 more jobs than students by 2020

$500 billion opportunity

1.4 million computer jobs

400,000 computer science students

Source: Code.org
Computer Science
The Challenge

The computing community in the US faces three significant and interrelated challenges in maintaining a robust IT workforce

1. Underproduction
2. Underrepresentation
3. Lack of a presence in K-12 education

(Jan Cuny, NSF CS10K Initiative)
Computer Science in NJ

"There will never be a shortage of opportunities for people who know how to solve problems."

Dean Kamen
FIRST® Founder
CS Statistics in NJ

CSTACNJ members – 69
CSTA membership – 340 in NJ (only 46 of 67)

High Schools in NJ
  public  505
  private 267 (maybe)

Schools that offer Computer Science - ???
Students who take Computer Science - ???
APCS Statistics in NJ

NJ schools offering APCS in 2012 - 133
Total students in NJ taking APCS - 1235
70.7% passed (874)

Who took the exam?
17.6% female (217)
3.0% black (37)
6.0% hispanic (74)

There were only 5 black females in the state of NJ who too APCS and only 1 passed.

Source: Data was compiled by Barbara Ericson (ericson@cc.gatech.edu) from data from the College Board for each year- http://research.collegeboard.org/programs/ap/data/archived/2012
CSTA Chapters in NJ

CSTA Central NJ
- Meet at Rutgers
- Second Tuesday of Even Months
- Next meeting October 8th (College Panel)
- Google Group / Website
- Contact Daryl Detrick
  - detrickd@warrenhills.org

CSTA Northern NJ
- Meet at Kean (might change)
- Next meeting in September 18th
- Contact Colleen Bamford
  - cbamford64@gmail.com

CSTA Southern NJ ?????
CSTACNJ

CSTACNJ goal is to enhance CS Education by promoting communication through a network of CS Educators from K through College. CSTACNJ hopes to provide opportunities for discussions, collaboration, professional development, and advocacy work.
“Access to CS Education has become the social justice issue of the 21st century. The way to get people out of poverty is to give them access to privileged skills.”

Chris Stevenson
CSTA Executive Director
Advocacy Work
National Level

Goal:
Make CS count as Math or Science credit toward HS graduation (14 states so far)

Computing in the Core - http://computinginthe-core.org/
Code.org  http://www.code.org/
CSTA cohort – csta.acm.org

The NCAA will give academic credit to any rigorous CS class if the school counts it for math or science credit.
CSNJ

An advocacy outreach of CSTA in New Jersey.

Mission Statement: To establish K-12 computer science as an essential academic discipline in NJ.

Goals:

• Make CS count as math or science core class
• Adopt CS standards for New Jersey
• Define CS teacher certification/endorsement
• Require all New Jersey students take a CS course to graduate

Have any connections in industry, government or DOE?
CSNJ Survey

Our first action item is to try to survey all high schools in NJ to find out how many offer CS courses and what CS courses they teach. The survey should only take 10 minutes.

We could use your help distributing it to high school CS teachers or administrators/guidance directors. We will forward an email to all CS4HS participants with a link to the survey. Complete by October 31st.
Celebrate CS Week
December 8 – 14, 2013
Sign up at www.csedweek.org/

Code.org goal is to have all students in the United States code for one hour during CS Ed Week.

What are we going to do in NJ?
Videos to Show CS Ed Week

**Code.org**
Every student in every school should have the opportunity to learn to code
5 minute video
http://www.code.org/

**She++**
Inspiring women to empower computer science
12 minute video
http://sheplusplus.stanford.edu/