Tools for Outreach Presentations

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Context of most of our presentations

- One time visits to interest students in computing
- Typically high school level
- Typically a classroom period
Some related efforts

- Carnegie Mellon University Women@SCS Roadshow
- Indiana University Women in Computing “Just Be”
- University of Illinois Women in Computer Science “Chic Tech”
Our impact

- New presentation elements
- About 100 schools
- Several thousand students
- Positive ratings and attitudinal responses in surveys
- Built HS teacher and administrator contacts
Content areas

- Who does computer science?
- What is computer science about?
- Are there jobs for computer scientists?
- How can I prepare to be active in CS?

Most content at [http://illinoiscomputes.org/hspresent](http://illinoiscomputes.org/hspresent)
Typical presentation

- Start with a robotics video (e.g., bionic arms)
- Slide show to break stereotypes
- Presentation on some CS applications
- Statistics on job prospects
- A CS-based magic trick
- Questions
- Robotics videos to fill out time
Some further details

- **Who**: Usually focused on pictorial quiz; sometimes skipped.
- **What**: Often part of CMU Roadshow or Jeanette Wing CT slideshow, robotics, visualization and/or art, assistive technologies for disabilities
- **Jobs**: Statistics on job availability and salary
- **Preparation**: Emphasized feasibility of starting in college
## Student ratings of components

<table>
<thead>
<tr>
<th>Component</th>
<th>Good/VG</th>
</tr>
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<tbody>
<tr>
<td>Robotics videos (n=227)</td>
<td>88%</td>
</tr>
<tr>
<td>Visualization techniques (n=212)</td>
<td>82%</td>
</tr>
<tr>
<td>Identifying computer scientists pictorial quiz (n=237)</td>
<td>80%</td>
</tr>
<tr>
<td>Magic tricks (n=209)</td>
<td>79%</td>
</tr>
<tr>
<td>Statistics on job availability and salary (n=215)</td>
<td>74%</td>
</tr>
<tr>
<td>Pointers to prepare for computing studies/careers (n=208)</td>
<td>74%</td>
</tr>
</tbody>
</table>
### Student attitudinal responses

<table>
<thead>
<tr>
<th></th>
<th>Neutral</th>
<th>Agree / Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>gained greater recognition of diversity of people working in computing (n=434)</td>
<td>30%</td>
<td>63%</td>
</tr>
<tr>
<td>learned more about computing work (n=432)</td>
<td>16%</td>
<td>70%</td>
</tr>
<tr>
<td>learned more about availability of computing career opportunities (n=427)</td>
<td>25%</td>
<td>70%</td>
</tr>
</tbody>
</table>
Where we got material

- Mostly collected from Web
- A few new constructions, albeit incorporating content or ideas of others:
Pictorial slide quiz

Instead of asking to identify a computer scientist among several non-scientists, each frame presented several computer scientists and asked for the number of such or to identify the one non-scientist. Thus, more computer scientist diversity was shown.
Number guessing magic trick

- Seven tables used to guess student’s secret number from impressive range of 1 to 125.
- Tables color-coded for easy reference, and students returning to the web site could get an extra bonus of an explanation of color representation in computers.
Error detection magic trick

● Variation on CS Unplugged trick so that no need for magician to add tiles; instead flip at most 3 in an 8x8 grid.
● Online HTML/Javascript implementation working for grids of any size.