

Demystifying and Degeekifying Computing through K-12 Outreach

Workshop #21



Introduction: Why do outreach?



Introduction: Why do outreach?



Introduction: Why do outreach?



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ALSO SEE WWW.MICROSOFT.COM/ENKTOUCHEN FOR DETAILS.



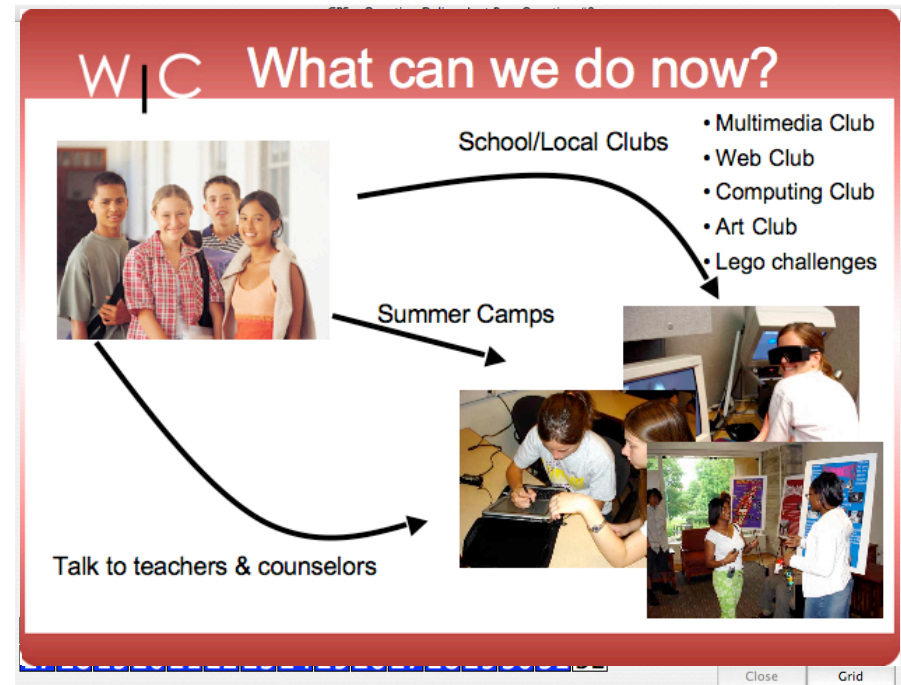
Outreach at IU: Just Be



Our Presentation

We have 5 different types of slides:

- Personal
- Perspective
- Interaction
- Research
- Now what?



Personal Slides

Goal: We want the students to be able to relate to us.

- Story about you being “their age”
- How you got into computing
- Something you have done in computing
- What you like to do for fun



Perspective

Goal: Find out what the stereotypes are

- Perceptions of people in computing professions
- Perceptions of computers and computer applications





Interaction


Goal: Keep them involved and lively.
We use the CPS system to dispel myths.


CPS - Question Deliver Just Be - Question #9

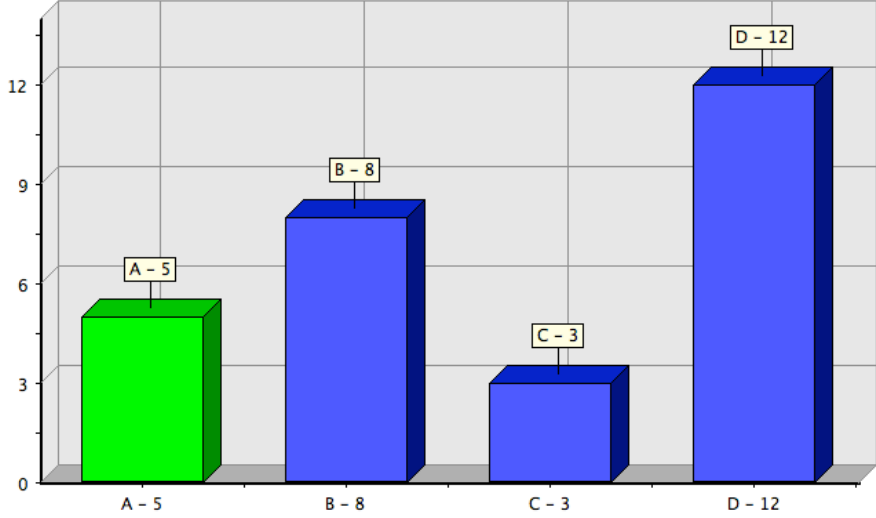
Who is the computer scientist?

A. 

B. 

C. 

D. 



Option	Count
A	5
B	8
C	3
D	12

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

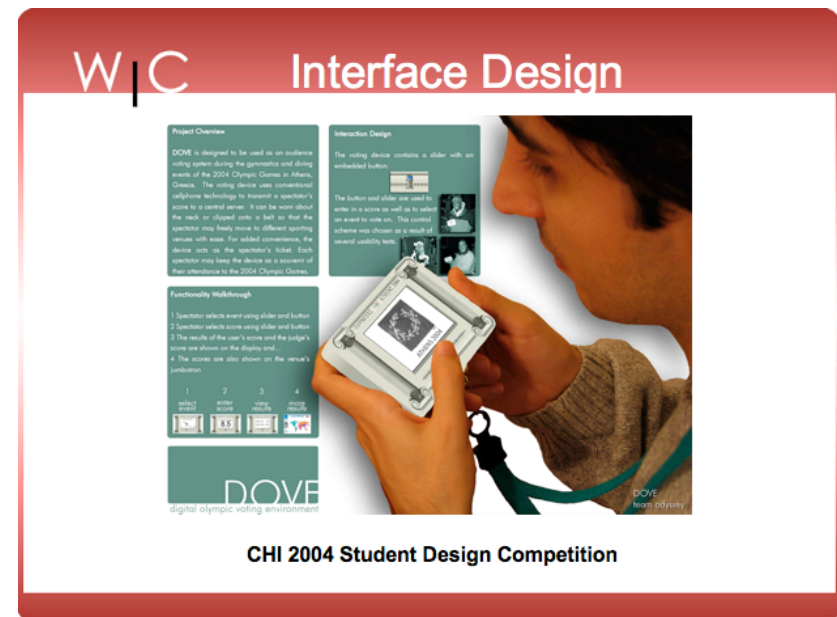
10:00 28 Start End Hide Pads Close Grid



Research

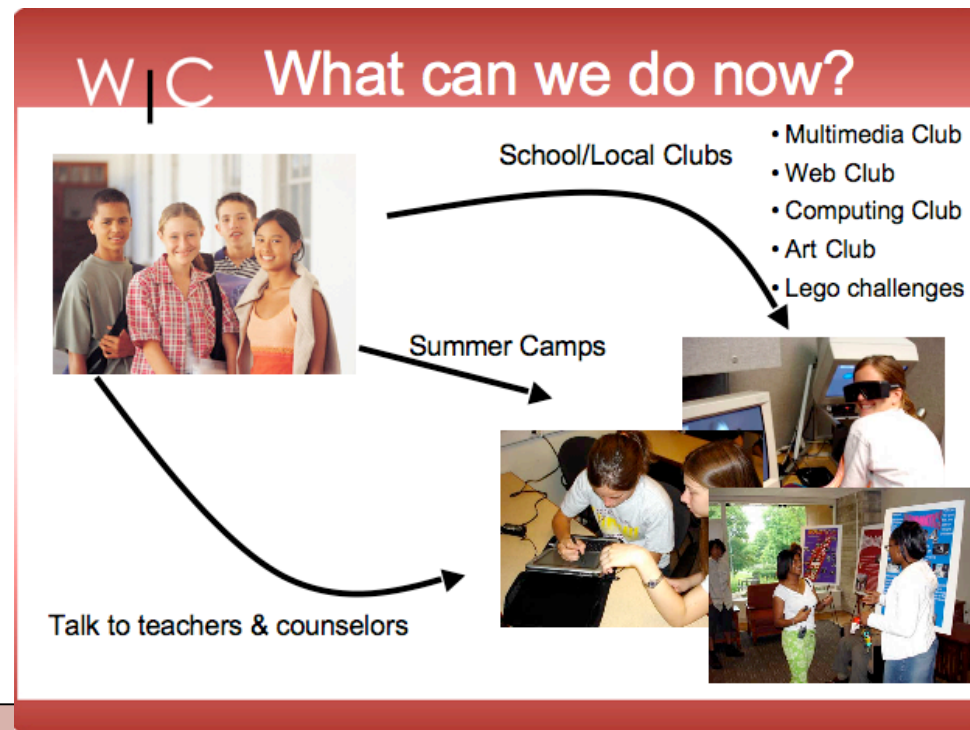
Goal: Highlight exciting, accessible research being done at IU

- What the research is, who did it
- What kinds of people use it, helped to create it
- What skills are needed to do something like this



Now What?

Goal: Give them ideas about how start exploring computing now. Reemphasize that anyone can do computing, it is highly interdisciplinary and we need all kinds of people in computing.



Questions?

- Samantha Foley (ssfoley@indiana.edu)
- Jennifer Franko (jefranko@indiana.edu)
- WIC@IU
<http://www.cs.indiana.edu/wic/>
- *Just Be*
<http://www.cs.indiana.edu/cgi-pub/wic/outreach/>
- COIN
<http://www.cs.indiana.edu/cgi-pub/wic/outreach/COIN.php>
- Bring IT On!
<http://www.cs.indiana.edu/bringiton/>



Outreach at CU: Beyond Computing...



About Our Presentation

- Started Fall 2006
- Diversity Task Force (3 professors)
- Presenters: 5 professors, 3 students
- Over 70% of faculty participation to help in development
- 2 professors do scheduling
- Budget \$0



Connect with the students...

John Giacomoni

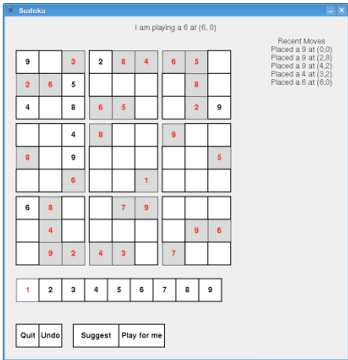


Katie Siek



Tell them what they can do soon...

First Class in Computer Science



A screenshot of a web-based Sudoku game. The interface shows a 9x9 grid with some numbers filled in. Below the grid is a row of numbers 1-9 and buttons for 'Quit', 'Undo', 'Suggest', and 'Play for me'. To the right of the grid, it says 'I am playing a 6 at (6, 0)'. A 'Recent Moves' list shows: 'Placed a 9 at (0, 0)', 'Placed a 9 at (2, 0)', 'Placed a 9 at (4, 2)', 'Placed a 6 at (5, 2)', and 'Placed a 6 at (6, 0)'. The University of Colorado at Boulder logo is at the bottom left.

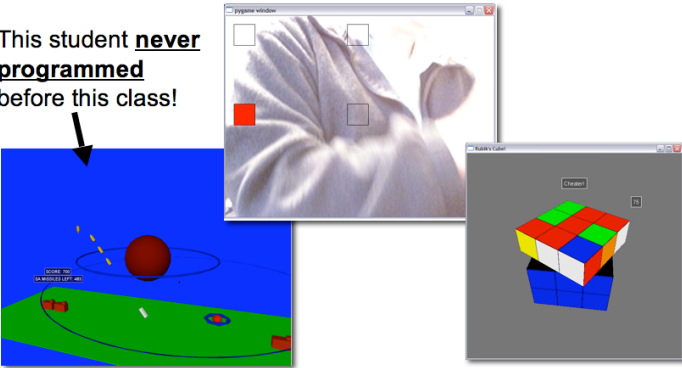
First Class in Computer Science



A photograph of a young girl in a pink dress sitting on large rocks by a stream. To the right is a pixelated version of the same image. A red circle highlights a small inset of the original image in the top left corner of the pixelated image. The University of Colorado at Boulder logo is at the bottom left, and the text 'CSCI 1300 Dirk Grunwald' is at the bottom right.

First Class in Computer Science

This student **never programmed** before this class!

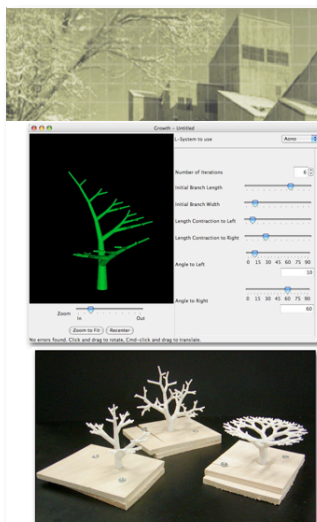


Three computer graphics windows are shown. The top window shows a hand rendered with realistic shading and texture. The bottom-left window shows a 3D scene with a red sphere, a green ground plane, and a blue sky. The bottom-right window shows a 3D Rubik's cube. The University of Colorado at Boulder logo is at the bottom left, and the text 'CSCI 1300 Dirk Grunwald' is at the bottom right.



Tell them what they can do later...

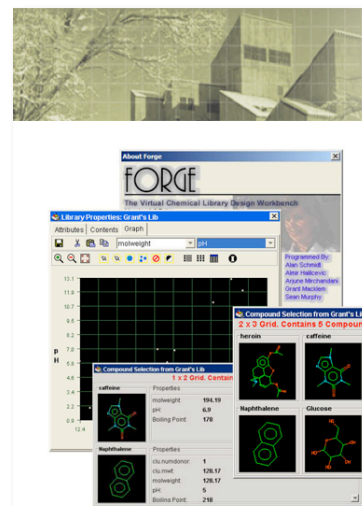
Senior Projects: Growth



- Worked with a professor in computer science
- Creating application where students can create botanical shapes
- Create real life botanical shape with 3D printer

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Senior Projects: Forge




- Worked with a drug discovery company
- Creating chemical compounds in a lab is expensive
- Scientists could use the application to create compounds

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Guess the CS person...low tech

Who are the people in computing?



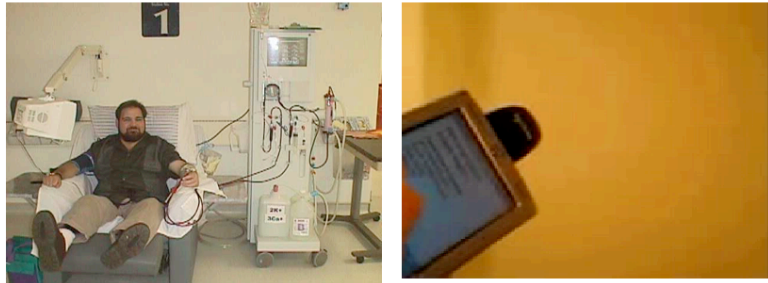
A B C D

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Research Examples Interaction

Health Informatics



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Someone mixed up the labels on the boxes of food



All of the boxes are incorrectly labeled.

You can only pick from one box to determine how to correctly label **all** of the boxes.

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Contact Info

- Katie Siek
 - ksiek@cs.colorado.edu
- Sponsors: iClicker



Brainstorming Session

- Intended audience
- Goal of presentation
- Who are the presenters?
- Where will you present?
- How to give the presentation?
- Content of presentation



Intended Audience

- 10-12th graders science/math
- 10th grade career
- 5th grade
- Middle school minorities
- Inner-city
- Girls only
- Musicians & artists
- Science club
- Home schoolers
- Everybody in middle school
- Parents and teachers and guidance counselors and school board
- Girl scouts/ boy scouts
- Gifted and talented programs



Goals of Presentation

- Deliver a message
 - CS is a viable/exciting/fun career
 - Social career
 - You CAN do it!
 - Lots of jobs \$\$\$\$\$
 - Variety, always changing
 - CS people are REAL and have lives
 - Broaden view
- Increased enrollment



Who are the Presenters?

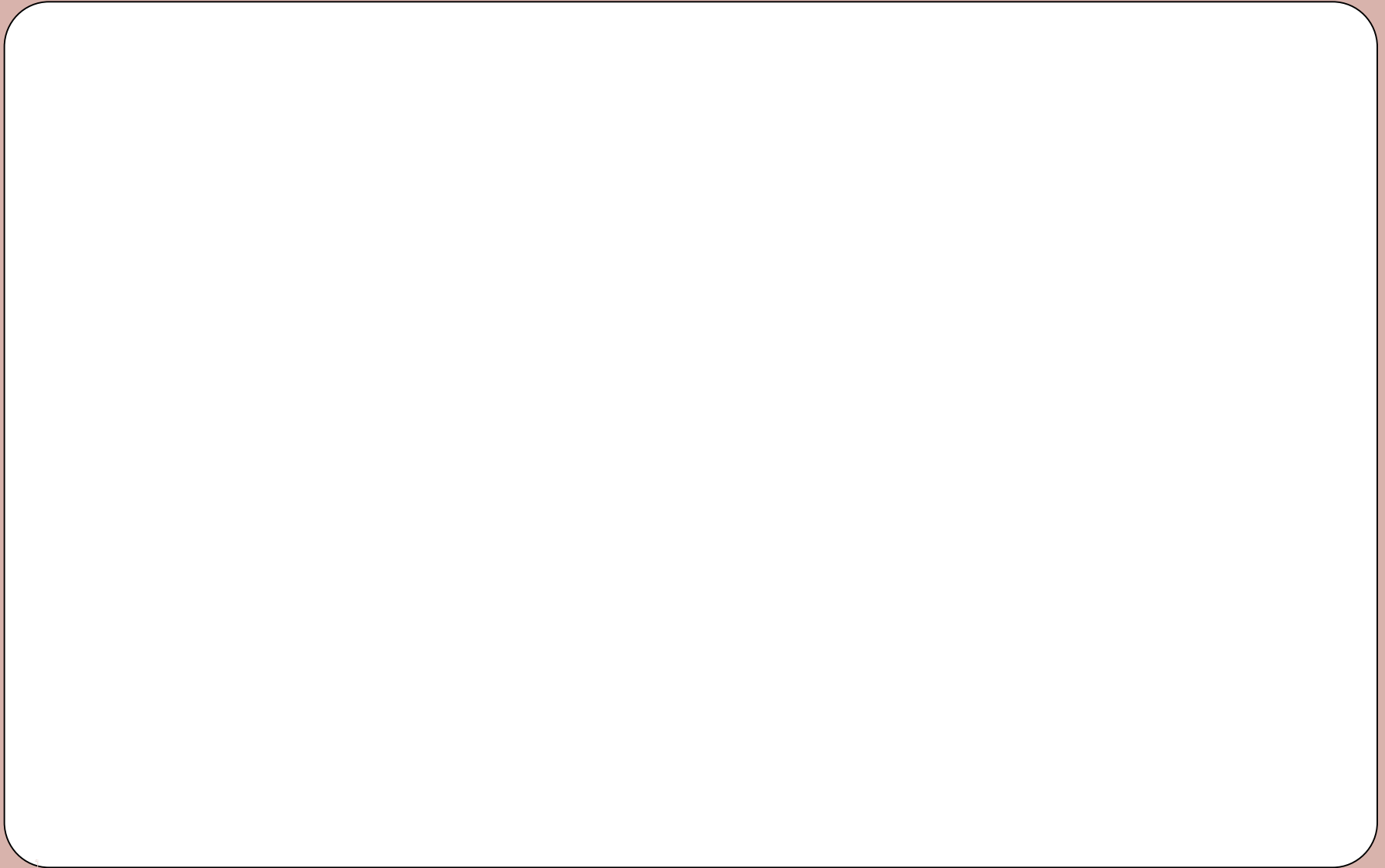
- ACM students
- Female and minorities!
- Faculty
- Variety of students
- Students that WANT to do it
- Good communicators/presenters (funny!!!)
- Role models
- Close in age
- Hardworking students who may not be geniuses
- Knowledgeable about the process



Where will you present?



How to give presentation



Content of Presentation

- How it makes the things they think are cool possible (rendering, graphics, video games, computational science, myspace.....)
- Student projects (flashy GUIs, esp. freshmen)
- Multimedia highlighting CS fields + music (make sure it is cool/interesting)
- Eye candy <-- ask a teenager!!!
- Low tech, problem solving
- Personal statements
- Watch out for terms... try computing or IT



Create Your Own!

Grab a template here:

<http://www.cs.indiana.edu/~menzel/SIGCSE2007/>

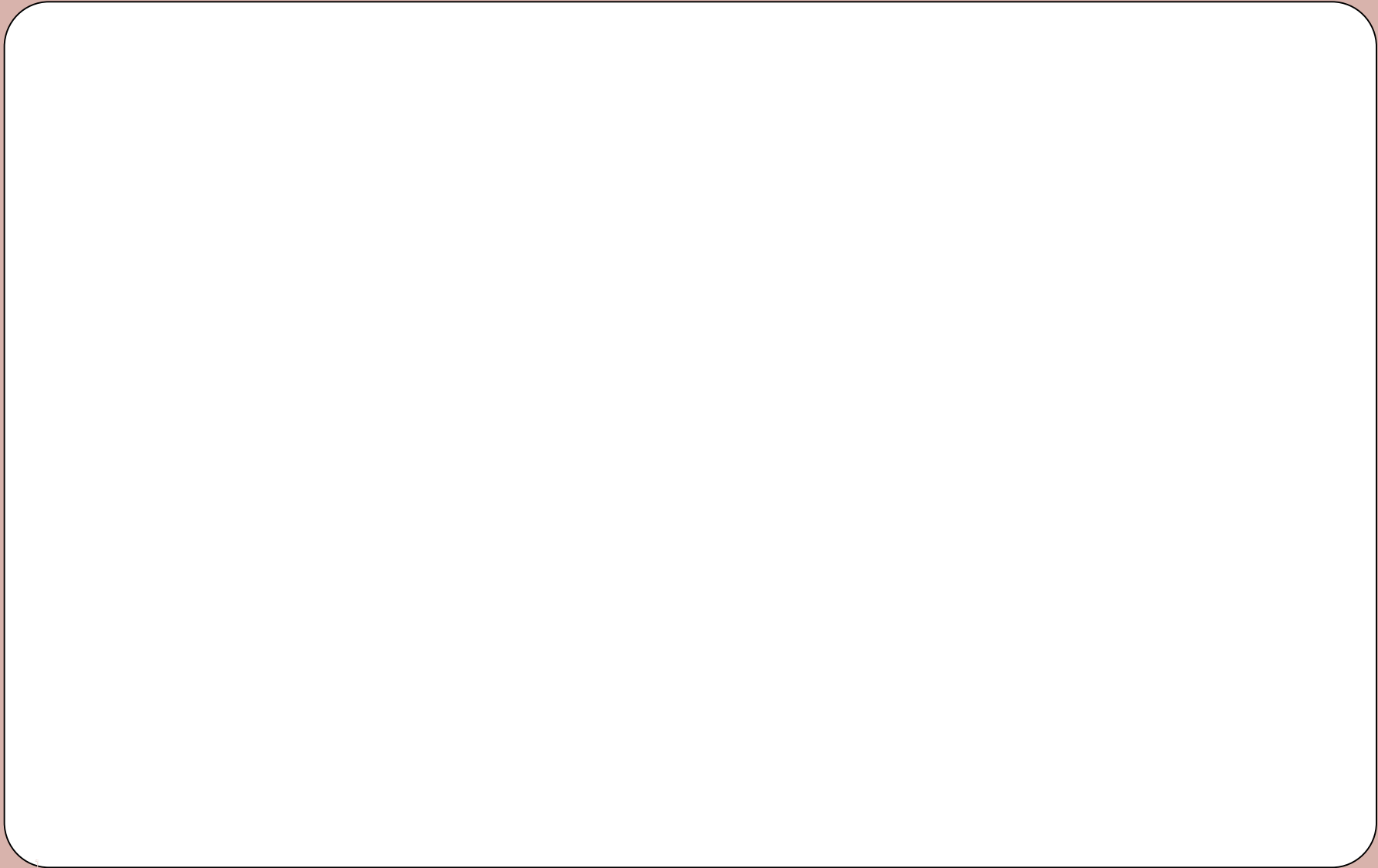


Your Catchy Title Here

Subtitle if you would like
or insert a picture/school
logo/mascot



About Us



Research Slide One

- Remember to change the title of the slide
- You can add some text here or make the pictures bigger.
- Try to use flash pictures, animation, etc. to show how exciting computing is.
- We try to use as little text as possible and instead put the text in the notes area to remind presenter what to say (e.g., using Slide Show->View Presenters Tools)



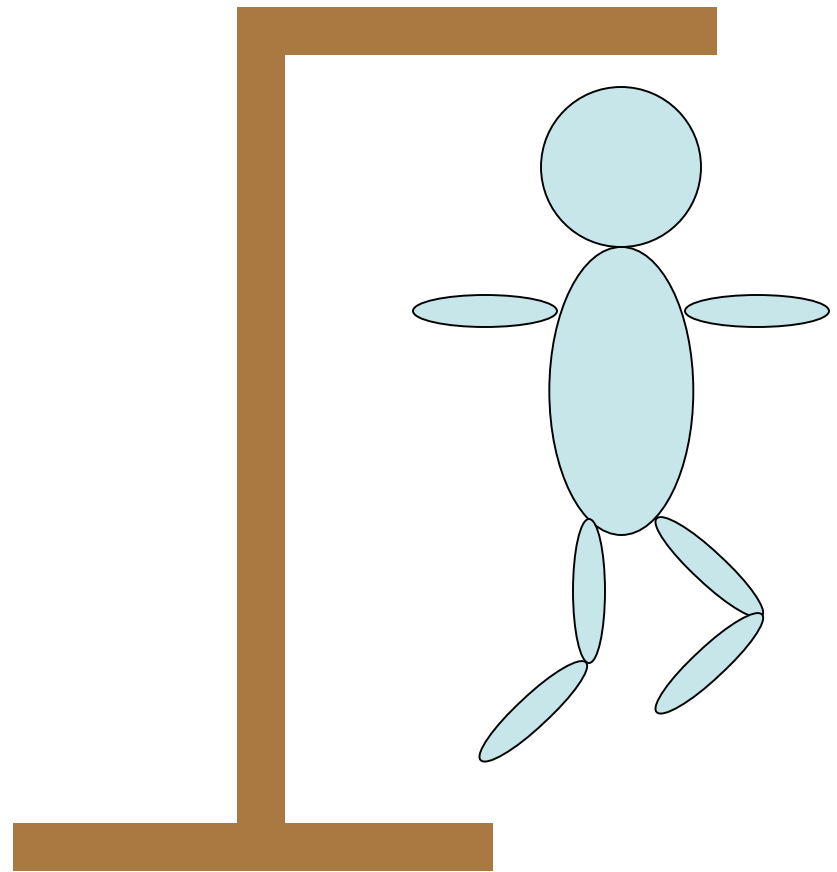
Research Slide Two

- Remember to change the title of the slide
- You can add some text here or make the pictures bigger.
- Try to use flash pictures, animation, etc. to show how exciting computing is.
- We try to use as little text as possible and instead put the text in the notes area to remind presenter what to say (e.g., using Slide Show->View Presenters Tools)



Interaction Slide

- Remember to change the title of the slide
- Create a slide that gets the audience to interact and think like a person in computing
 - A logic problem
 - Popular logical thinking game
 - Example of class project (e.g., hangman - select slideshow to see animation)



Contact Info

- Presenter Name
 - Email address
- Presenter Name
 - Email address
- ...
- Sponsors: [sponsor list - people who gave you money, support, time, to create this presentation]



Thanks for Coming!

Questions? Comments?

