



Computer Science and Games: *Just For Girls!*

Introduction

About Me



About Me



The Female Perspective of Computer science

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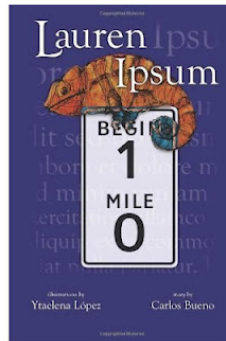


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FRIDAY, MAY 4, 2012

Two Examples of Storytelling to Teach Computer Science

Here are two delightful examples of using storytelling to teach computer science. These are traditional stories to be read on their own. They differ from our [storytelling experiment](#), where we are doing interactive group activities with stories attached.



The first example is a book called [Lauren Ipsum](#), "a story about computer science and other improbable things." I just bought the e-book version and haven't read it yet, but even the opening note has me hooked:

No computers will be found in this book. If the idea of a computer science book without computers upsets you, please close your eyes until you've finished reading the rest of this page. The truth is that computer science is not really about the computer. It is just a tool to help you see ideas more clearly. You can see the moon and stars without a telescope, smell the flowers without a fluoroscope, have fun without a funoscope, and be silly sans oscilloscope. You can also play with computer science without... you-know-what. Ideas are the real stuff of computer science. This book is about those ideas, and how to find them.

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<http://compscigail.blogspot.com>

About Me

Bachelor of Computer Science (2002-2007)
Masters of Computer Science (2007-2009)
PhD Computer Science (2009-now)



What About YOU?

Let's get to know each other.

What school are you from?

What made you sign up for this course?

What activities do you do outside of class?

What kinds of games (board, card, video...) do you play or watch others play?

What is something interesting about you we can't tell by looking at you?

What happens next?

Let's talk about computer science and games, and how women fit into the industry.

Then I'll tell you what the rest of the week is going to look like.



Computer Science and Games: *Just For Girls!*

Looking at Computer
Science

What is Computer Science?

The big fancy definition:

Computer science (or computing science) is the study of the theoretical foundations of information and computation and their implementation and application in computer systems.

http://en.wikipedia.org/wiki/Computer_science

What is Computer Science?

It's all about finding ways to figure stuff out.

What can be computed automatically?

How hard is it to compute?

**What cool applications are there?
(Like games!)**

**What's the best way to set up a computer
so it can do all this stuff fast?**

We are limited only by our imagination...

Computer Science Goes Well With...



http://www.dailygalaxy.com/photos/uncategorized/2007/10/30/robot_5.jpg

Computer Science Goes Well With...



http://news.cnet.com/i/bto/20080609/iphone_550x550_540x539.jpg

Computer Science Goes Well With...



<http://www.waynepubliclibrary.org/images/music%20notes.JPG>

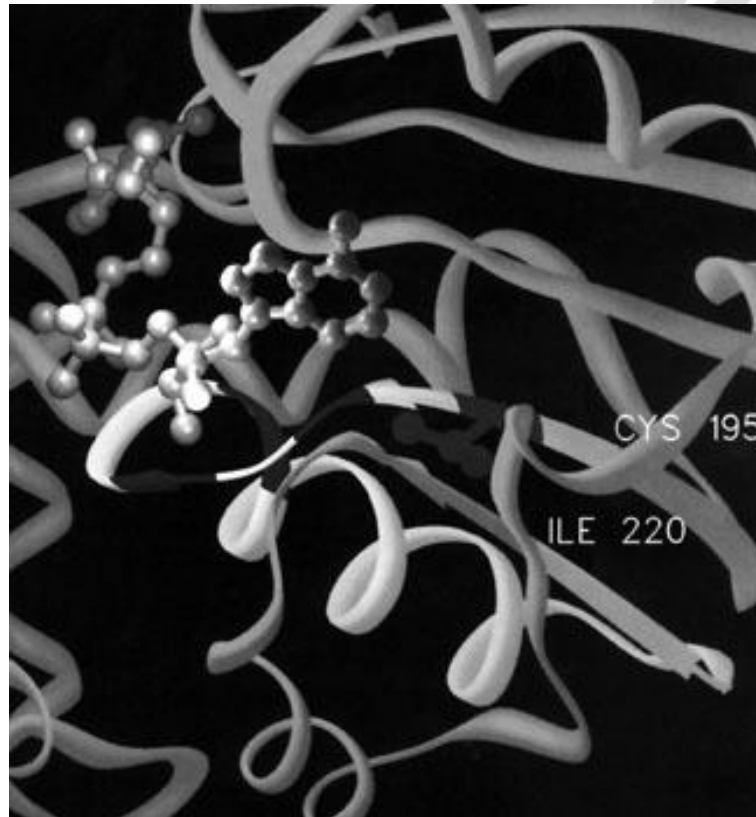


Computer Science Goes Well With...



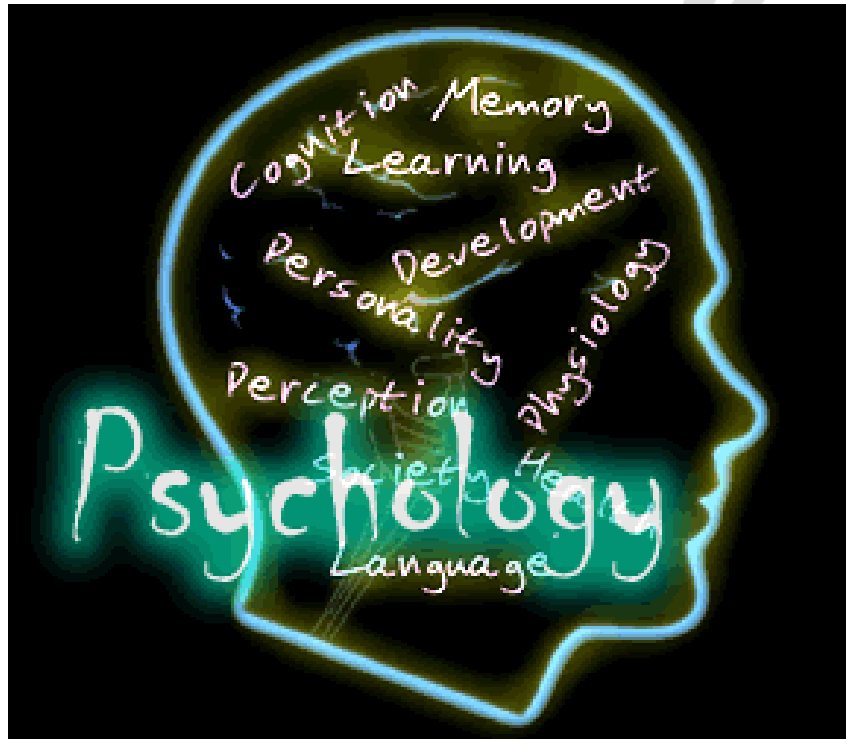
http://www.math.msu.edu/~mshapiro/kidmath_files/mathematics.jpg

Computer Science Goes Well With...



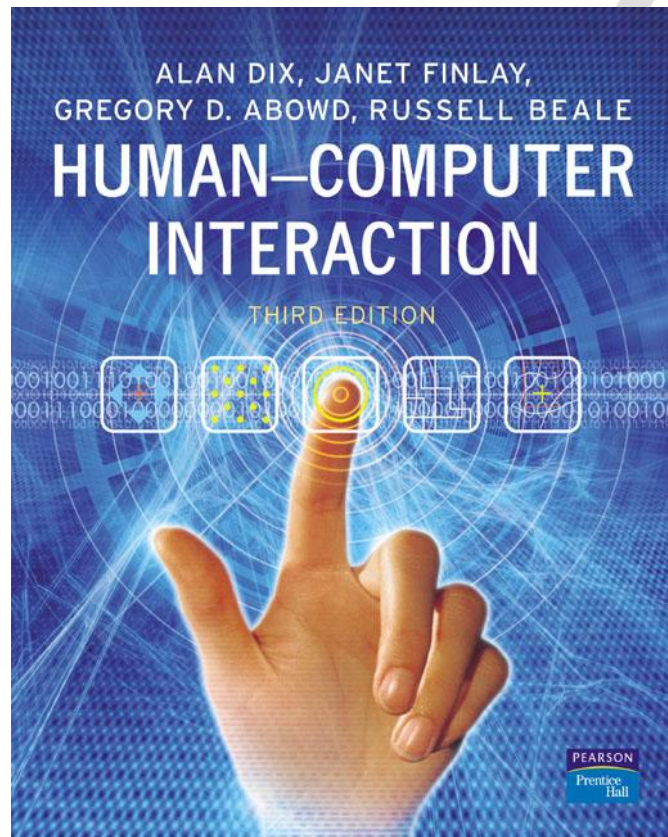
<http://www.wadsworth.org/cores/images/stats.jpg>

Computer Science Goes Well With...



<http://departments.weber.edu/psychology/Psychology.gif>

Computer Science Goes Well With...



<http://images.pearsoned-ema.com/jpeg/large/9780130461094.jpg>

Computer Science Goes Well With...



<http://hornbillunleashed.files.wordpress.com/2009/10/law.jpg>

Computer Science Goes Well With...

**... pretty much anything
you want it to!**

Pathways in Computer Science

Video from University of Washington
Computer Science and Engineering

http://www.youtube.com/watch?v=jq_EcstLfE



Computer Science and Games: *Just For Girls!*

Looking at Games



What is a "game"?

Brainstorm!

What defines every kind of game?

Do things that aren't games fit that definition?

What is fun?

Brainstorm!

What exactly *is* fun, anyway?





Computer Science and Games: *Just For Girls!*

What's the
Connection?

What's the connection?

Computer Science Research



Applications to Games



What's the connection?

Trying to make games better



Breakthrough in research areas



What's the connection?

**Learning about computer science using
games as an example application**



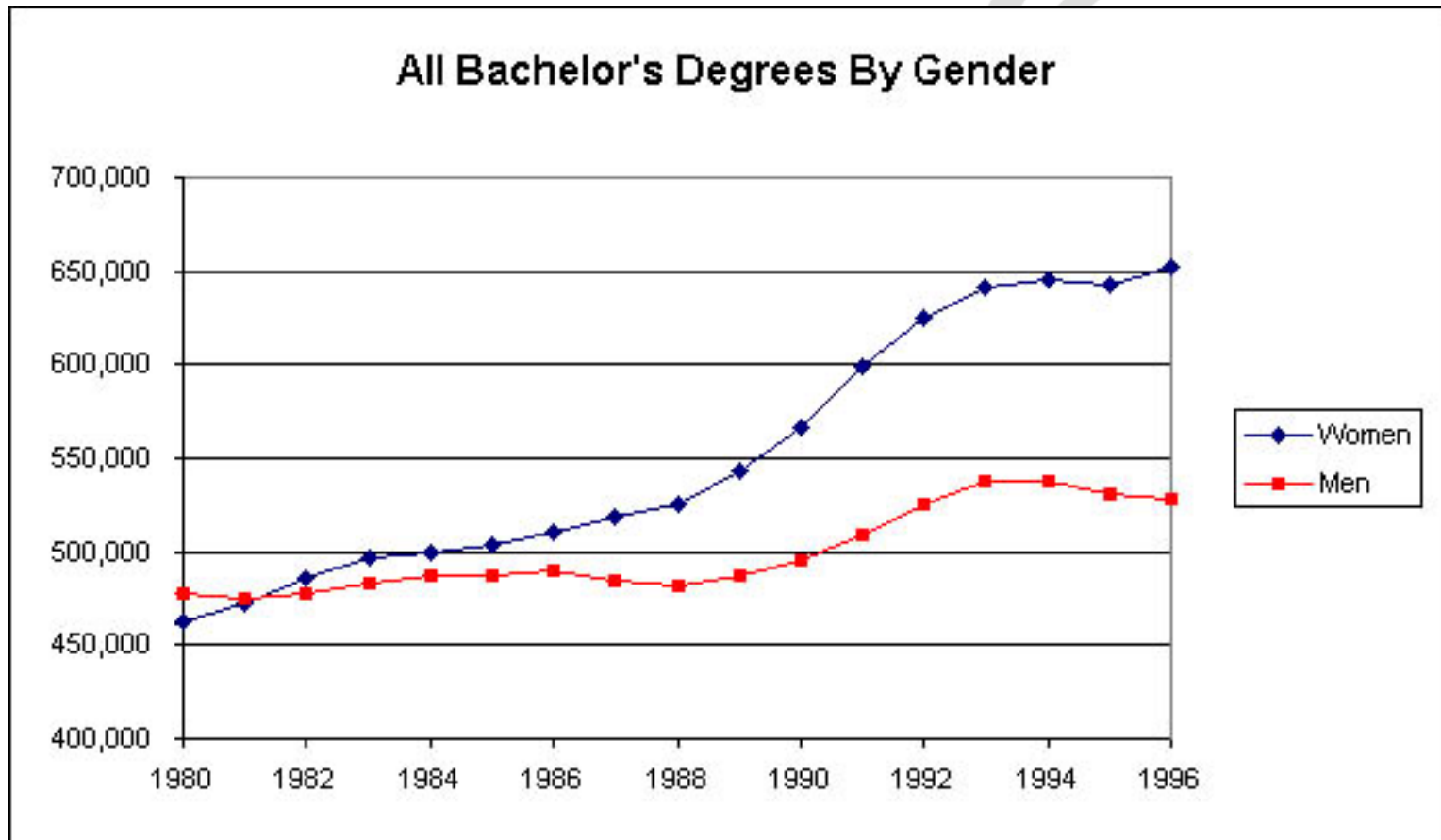
**Learning about computer science is
more fun!**



Computer Science and Games: *Just For Girls!*

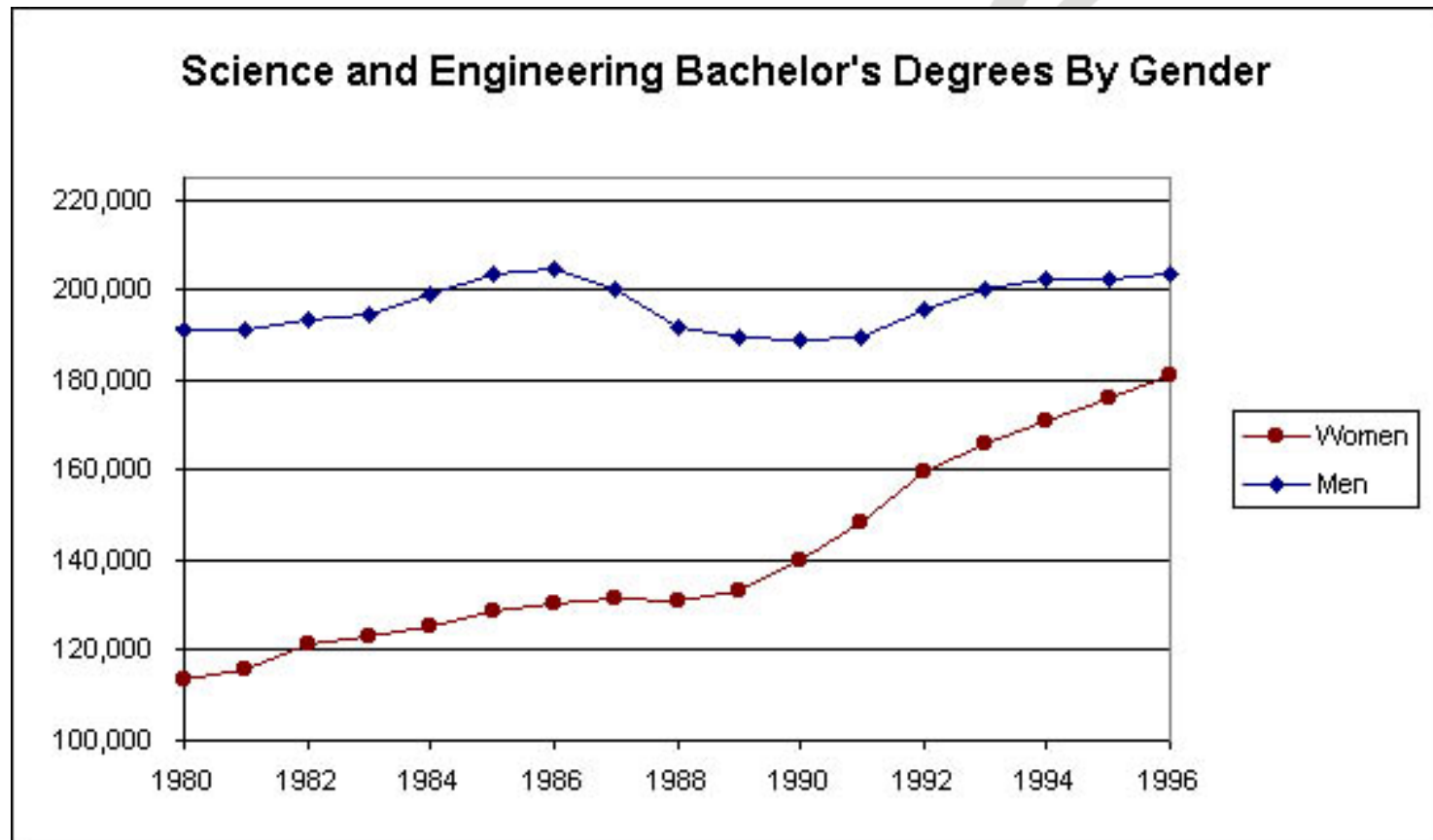
What About The Part
About Being For Girls?

The Cold, Hard Data



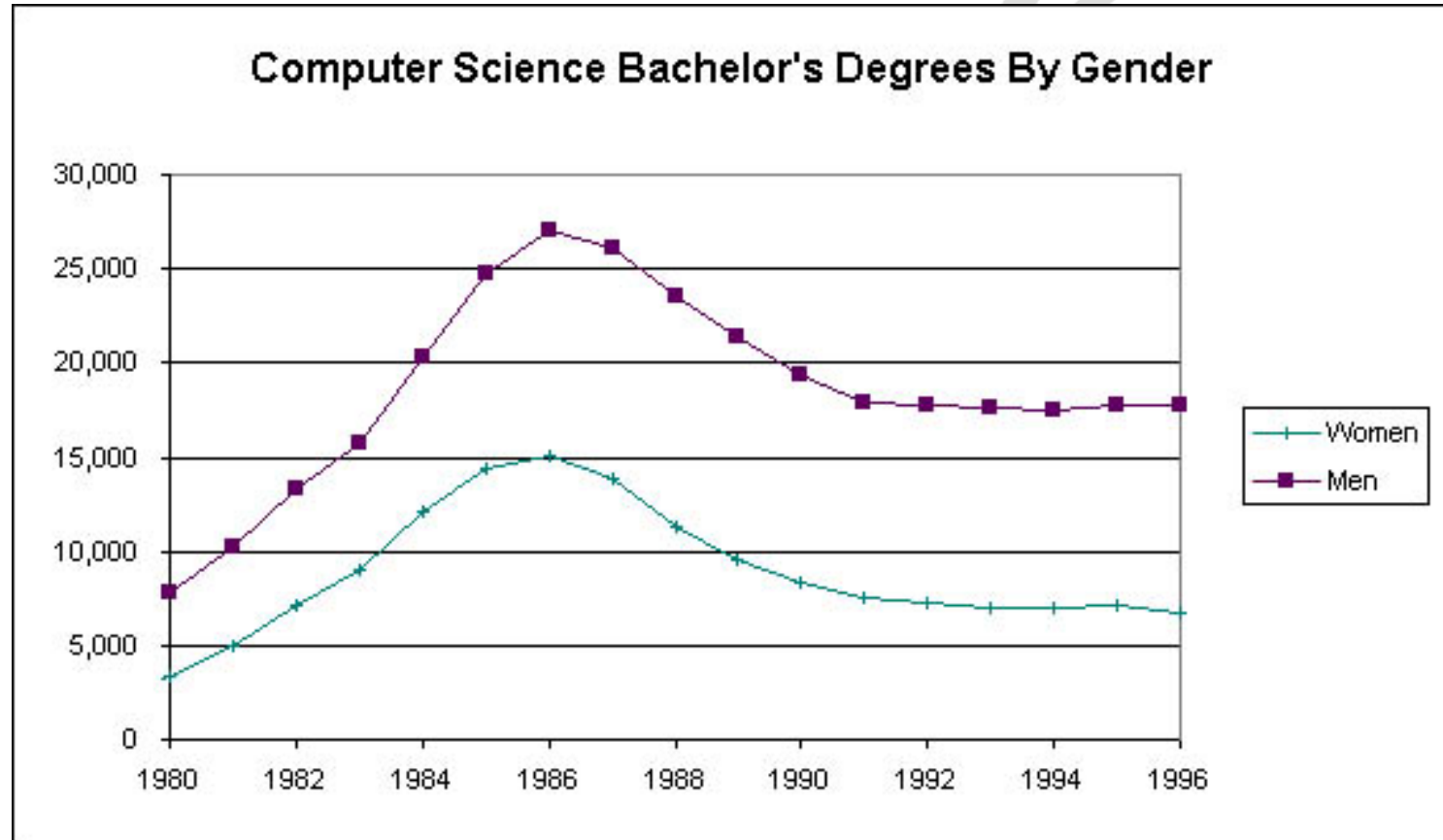
<http://www.cs.washington.edu/homes/letchner/cs201/statistics.html>

The Cold, Hard Data



<http://www.cs.washington.edu/homes/letchner/cs201/statistics.html>

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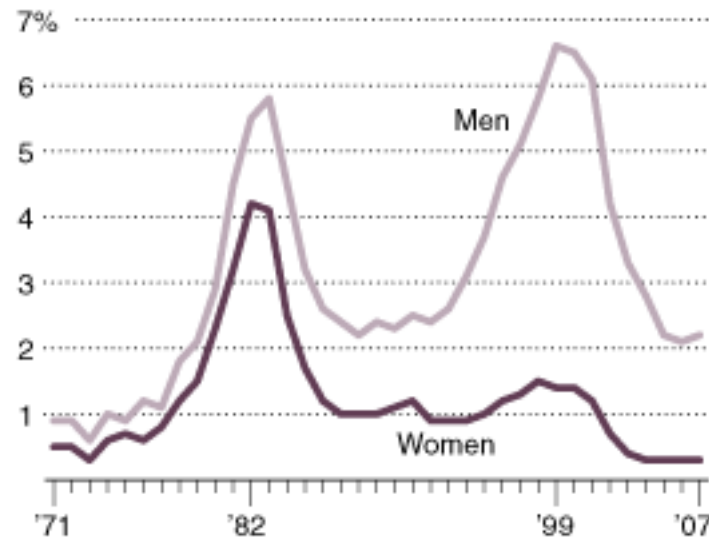
The Cold, Hard Data

The New York Times

November 15, 2008

Widening Gap

The percentage of female college freshmen who list computer science as a probable major is 0.3 percent, down from 4.2 percent in 1982.



Source: U.C.L.A. Higher Education Research Institute

THE NEW YORK TIMES

<http://www.nytimes.com/2008/11/16/business/16digi.html?em>

Brainstorming Time

Get into groups of about two or three and brainstorm:

- **Why don't girls go into computer science?**
- **Why is this a bad thing?**
- **What kinds of things would make *you* interested in taking computer science in high school and university?**

Why Should We Care?

1. Computer science is actually a really **rewarding career** for women
2. Women bring a **different perspective** to the field
3. The video game **market is largely untapped** for female gamers

Girls in a Tech World

The Endless Possibilities of Computer Science

<http://www.youtube.com/watch?v=DYBPotROKC8>

Female Gamers

Number of gamers that are female: **38%**

How much of the game playing population are women 18 or older: **30%**

How much of the game playing population are boys 17 or younger: **23%**

(http://www.theesa.com/facts/gamer_data.php)

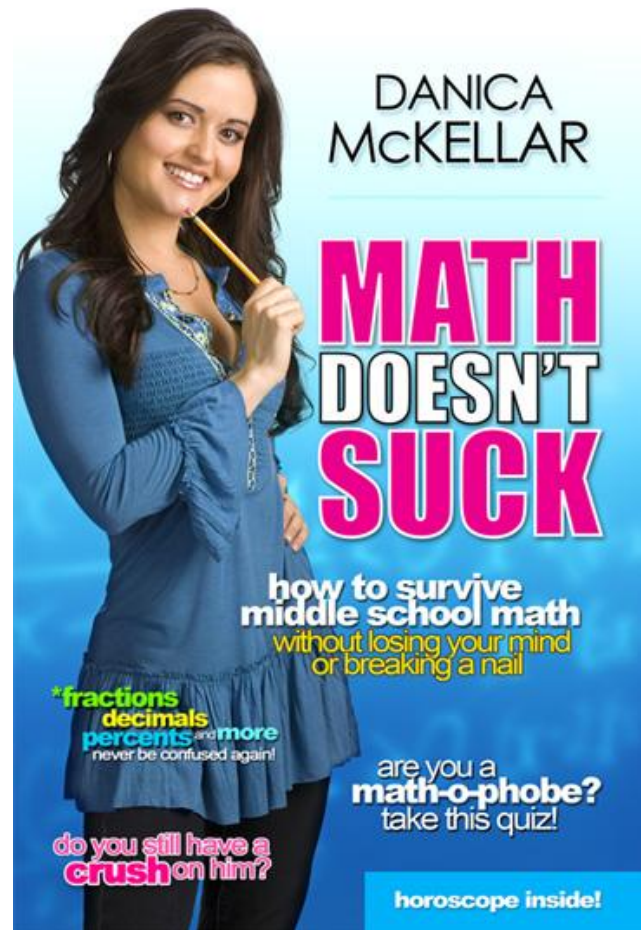
So why are so many video games made for *young men*?

Female Gamers



<http://www.abc.net.au/tv/goodgame/stories/s2115553.htm>

How Math is Doing It



<http://mathdoesntsuck.com/main.php?p=book>

How CS is Trying to Do It

dot | diva

We're young women with the power and passion to make a difference. We believe in the potential of computing to build a better world.



<http://dotdiva.org/webisode.html>

Here at Carleton...

CU-WISE is a group of undergraduate and graduate students who believe that women should be able to seek higher education and achieve success in science and engineering without barriers, perceived or otherwise.



Women in
SCIENCE AND ENGINEERING
Carleton University



<http://www.carleton.ca/wise>

Why Choose CSE?

Video from University of Washington
Computer Science and Engineering

<http://www.youtube.com/watch?v=ooUM93Pa7XY>



Computer Science and Games: *Just For Girls!*

What's going on this
week?

Stuff We'll Learn

Game Design

Usability/Human Computer Interaction

Computer Graphics

Artificial Intelligence

Making a game in Game Maker

Credits

Notes by your instructor Gail Carmichael:

gail.banaszkiewicz@gmail.com

<http://gailcarmichael.com/>

Notes partially based on:

Fundamentals of Game Design, Ernest Adams and Andrew Rollings

The Game Maker's Apprentice, Jacob Habgood and Mark Overmars

The Design of Everyday Things, Donald Norman

Gender Inclusive Game Design: Expanding The Market, Sheri Graner Ray