



Computer Science and Games: *Just For Girls!*

Why Good Design
Matters

What's Wrong With This Picture?



<http://www.danlockton.co.uk/research/images/hincmanbench.jpg>

What's Wrong With This Picture?



<http://images.amazon.com/images/P/0385267746.01.LZZZZZZZ.jpg>

What's Wrong With This Picture?



<http://www.tubz.com/images/porcher/imgLarge1380.jpg>

What's Wrong With This Picture?

The image shows a screenshot of an "EMI Calculator" web application. The interface includes a title bar, input fields for "Loan Amount", "Interest Rate", and "Tenure", and a "Calculate" button. The "Loan Amount" is set to 1. The "Interest Rate" is set to 7.300000000000000. The "Tenure" is set to 10 Years. The "EMI" is displayed as Rs. 0.01. The "Calculate" button is visible, and the "Reset" button is also present. The interface is framed by a blue border.

Field	Value
Loan Amount	1
Interest Rate	7.300000000000000
Tenure	10 Years
EMI	Rs. 0.01

<http://yeskarthi.files.wordpress.com/2007/05/emi.jpg>

What's Wrong With This Picture?



http://static.flickr.com/51/169941715_d767577f64_o.jpg

What's Wrong With This Picture?



<http://www.kitchencontraptions.com/archives/pictures/smeg-double-oven-stainless-steel-range.jpg>

Your Turn!

Draw some pictures of (or describe) some really bad user interface designs.

What problems could bad designs cause for the companies that make them?

What about for the people that buy them?



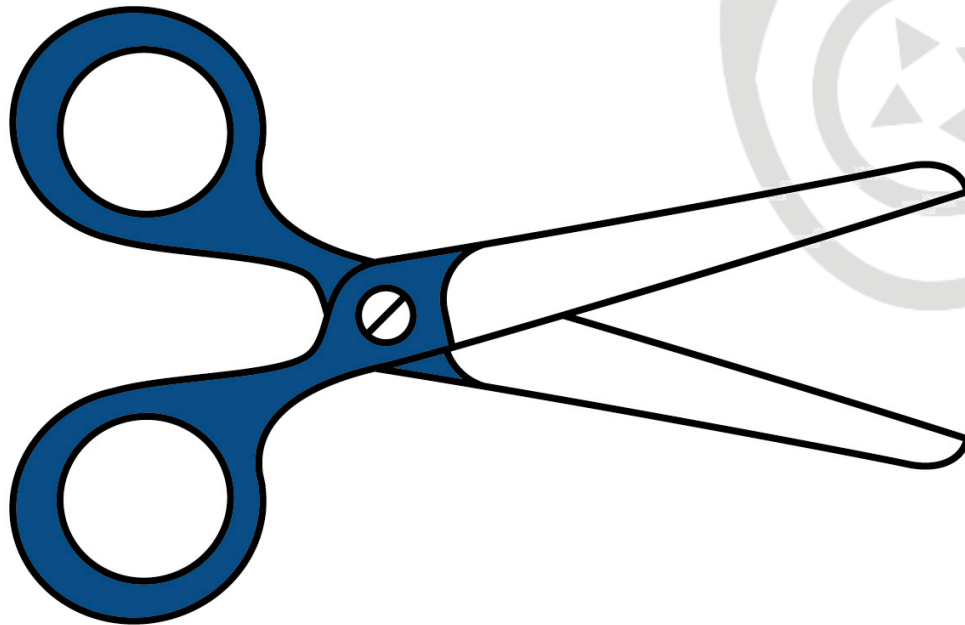
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Principles of Good
Design



Good Conceptual Model



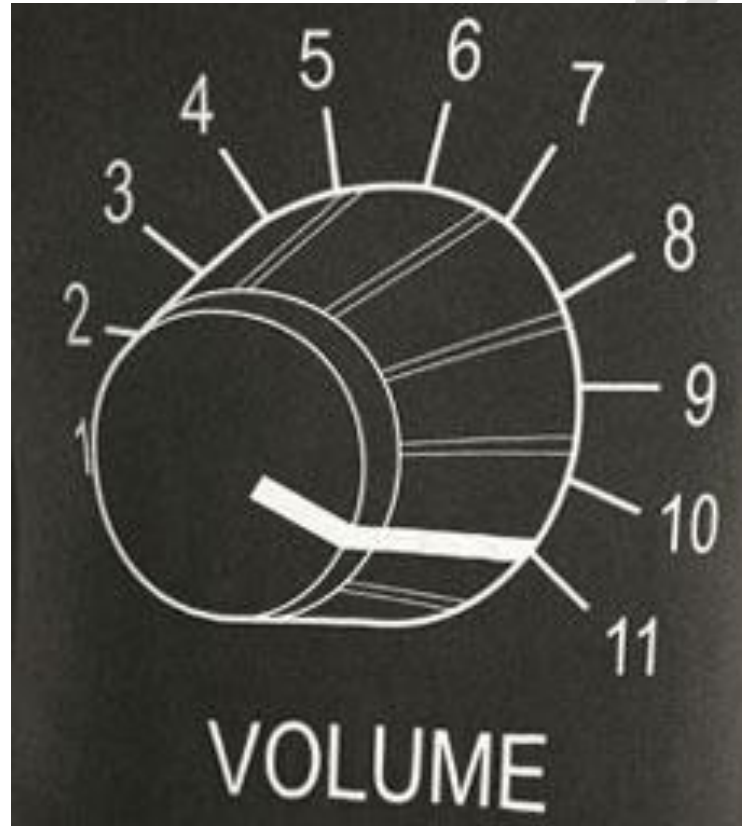
<http://www.abcteach.com/free/s/scissors1brgb.jpg>

Make Things Visible



http://xcelsius.files.wordpress.com/2007/08/auto_dash.jpg

Natural Mapping



<http://www.uncrate.com/men/images/2006/06/paul-frank-volume-tee.jpg>

Feedback



<http://www.ivantodorov.com/blog/wp-content/070128/office5.jpg>

Know Your Users!



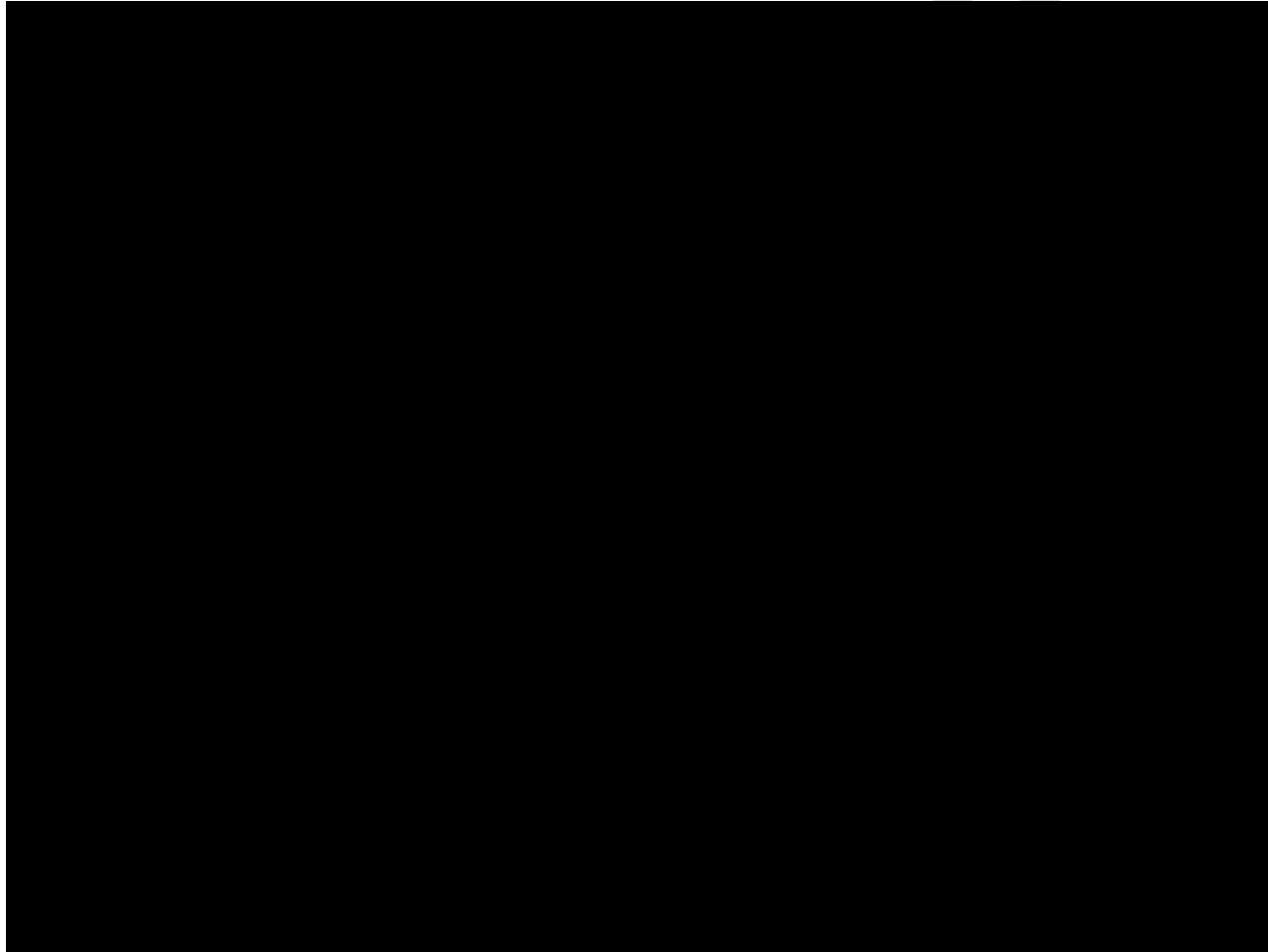
<http://www.it-c.dk/research/EyeGazeInteraction/Images/Anders.jpg>



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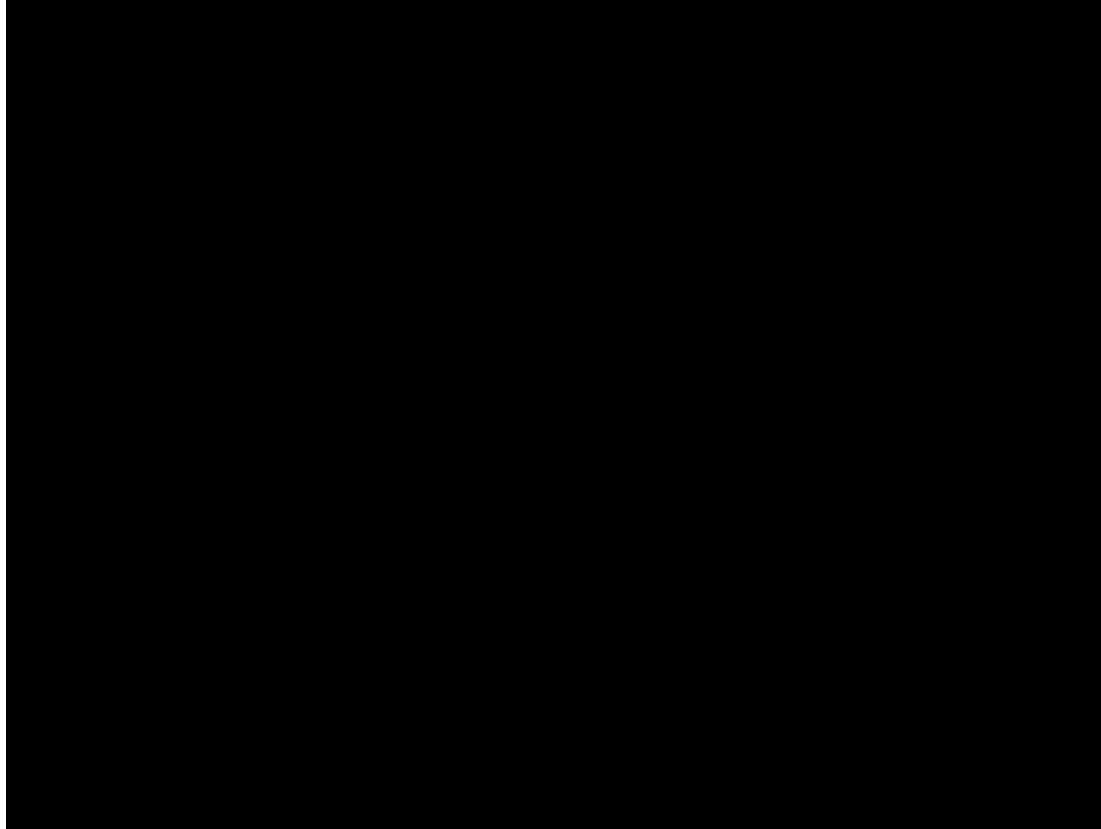
Up and Coming
Interfaces

Microsoft Surface



<http://on10.net/Blogs/larry/first-look-microsoft-surfacing-computing/>

Head Tracking Coolness



<http://youtube.com/watch?v=Jd3-eiid-Uw>



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Designing for Oompa-
Loompas

Human Interface Design

CS Unplugged Activity: The Chocolate Factory



<http://www.1halloween.net/images/cosoompa.jpg>



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Usability and Video
Games

Your Usability Tips

How can we make video games work better for players?



Game Usability

Be consistent



Game Usability

Give good feedback



Game Usability

A faint, light gray illustration of a game controller is visible in the background on the right side of the slide. It shows the main body of the controller with two analog sticks, a directional pad, and two buttons.

Keep the *player* in control

A decorative, light gray vine graphic with small leaves is located in the bottom left corner of the slide.

Game Usability

A faint, light gray illustration of a game controller is visible in the background on the right side of the slide. It shows the main body of the controller with two analog sticks, a directional pad, and two trigger buttons.

**Require minimal steps to
complete an action**

A decorative gray vine graphic with small leaves is located in the bottom left corner of the slide.

Game Usability



Easy to go back, undo, try again



Game Usability

A faint, light gray illustration of a game controller is visible in the background on the right side of the slide. It shows the main body of the controller with two analog sticks, a directional pad, and two trigger buttons.

Avoid physical stress or pain

A decorative graphic of a vine with leaves is located in the bottom left corner of the slide.

Game Usability



Display necessary info on the screen



Game Usability



**Give experienced players
shortcuts**



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