

CSC318H

Design of Interactive

Computational Media

Lecture I, Week I
January 5, 2015
CSC318HIS
Velian Pandeliev

Getting Started

Who am I?

My name is **Velian Pandeliev**, I'm a 5th year Ph.D. student in Computer Science.

My research is in the field of Human-Computer Interaction and this is my second time teaching CSC318.

I respond to, in order of preference:

"Velian"

"Mr. Pandeliev"

"Mr. P."

"Dr. P."

"Professor"

"Mr. Pandeli"

My e-mail address is vpandeli@cs.utoronto.ca

What is CSC318?

Design of Interactive Computational Media

Investigation, development and evaluation

Involves human users

Involves a computer

The interface that facilitates the interaction

What to expect?

CSC318 is a bit different from many other CS courses:

- There is no final exam!
- Huge ongoing project consisting of 5 parts
- Individual work alternates with group work
- Minimal coding effort
- Focus on the users and their needs
- Iterate design around users
- Participation and time management are keys to success in this course
- Projects are judged by panel of industry professionals at the end of term

Survey

Please complete the survey.

Draw a computer on the back of the sheet.
Hold on to your survey sheets.

By show of hands, how many of you:

- drew a desktop or laptop PC?
- drew a tablet or smartphone?
- drew a screen?
- drew a keyboard or mouse?
- drew a CPU?
- drew a RAM module?

The interface matters!

Human-Computer Interface

- The place where humans and computers meet
- The human's image (view) of the computer
- Allows interaction with the computer
- Should be **invisible**, allowing user to focus on the task



Past and Future in Human-Computer Interaction

Everything Was New Once

www.youtube.com/watch?v=xFAWR6hzZek

VIHCIP: Bill Buxton

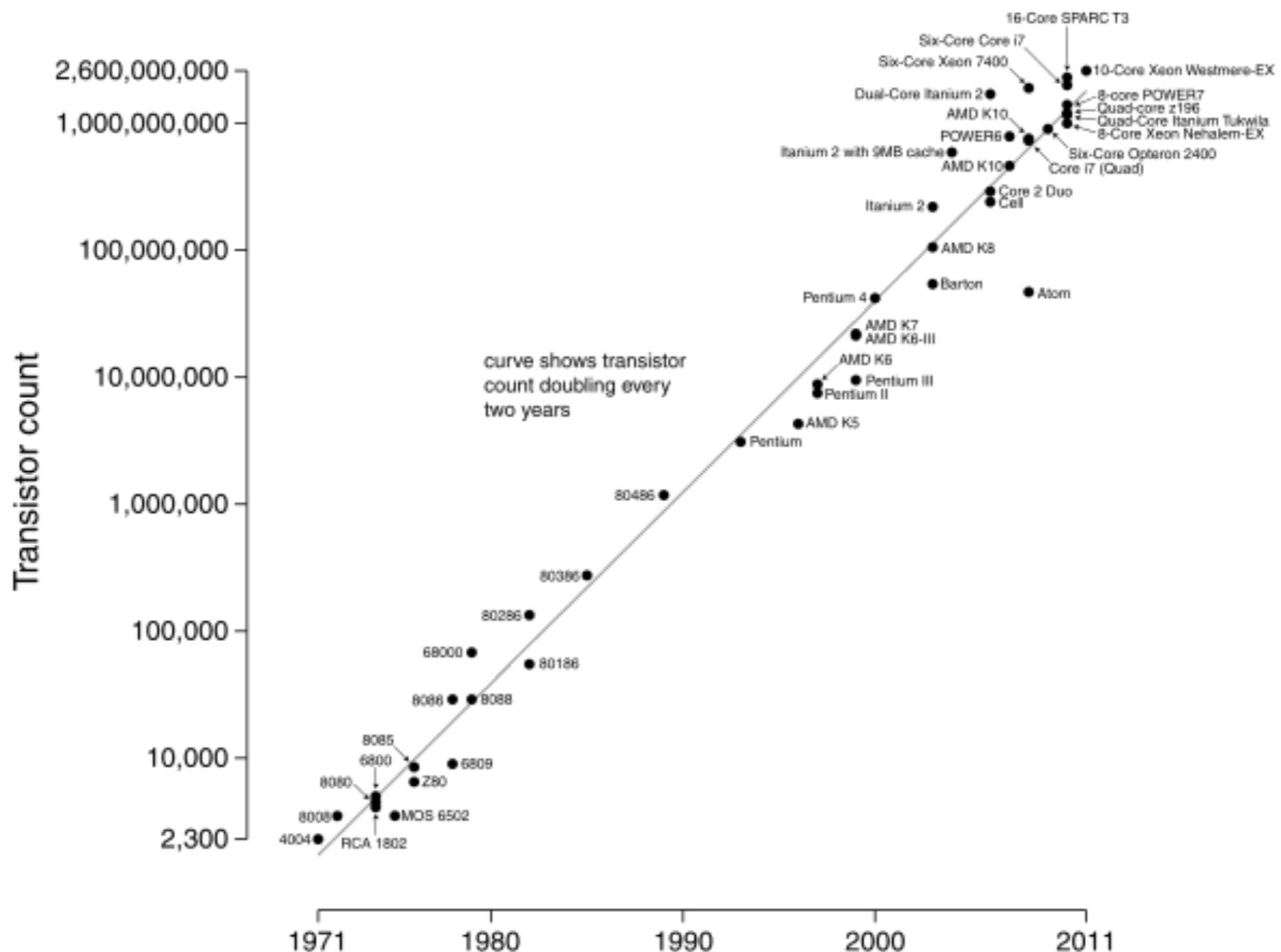


Principal researcher at Microsoft
Pioneer in HCI
Curator of the Buxton Collection
of Interactive Devices
Worked with Prof. Ron Baecker at
the Dynamic Graphics Project here
at U of T.

www.billbuxton.com

Moore's Law

The number of transistors in a dense integrated circuit (and therefore its computing power) doubles every two years.



Moore's Law



Casio AT-550-7 (1984)



Samsung Gear S (2014)

15 Moore's Laws later
(2^{15} times more powerful)



bit.ly/1toJTJ2

Moore's Law



Casio AT-550-7 (1984)



Samsung Gear S (2014)

“Look at the collection and then try and convince me that our slow rate of progress is due to a lack of technology rather than a lack of imagination.”

B. Buxton

What is this?



- It is a multipurpose mobile phone that has only one button.
- The button activates a large rectangular touchscreen
- Multiple apps (calendar, phone, address book, games) are all accessible from this screen

IBM Simon (1994)

Curve of Innovation



IBM Simon (1994) iPhone 1 (2007) Nexus 5 (2013)

Curve of Innovation

It takes approximately 20 years for a new idea to go from the prototype phase to achieving widespread penetration.

The biggest thing in 10 years is already 10 years old.

Understanding the history of HCI and its failed attempts is as important as thinking ahead.



Critical Thinking and User Needs



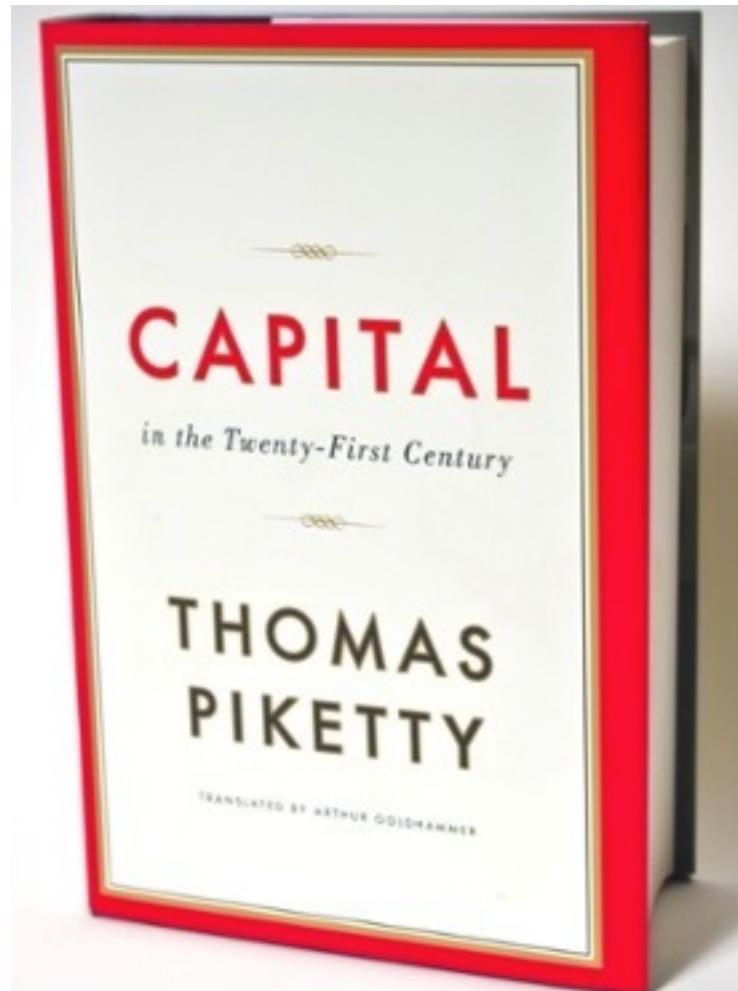
www.youtube.com/watch?v=MOXQo7nURs0

Critical discourse in HCI



- Capacity: 32 / 64 GB
- Weight: 331 grams
- Beautiful 7.9" Retina display
- Advanced wireless
- Up to 10 hours of battery life

Critical discourse in HCI



- Glare-free black-on-white text
- Weight: 350 grams
- 9" diagonal page size
- Words are separated by spaces and punctuation marks delineate the ends of sentences
- The pages are sturdily bound together to prevent fall-apart

Critical discourse in HCI



- Multipurpose computing device that fits in a purse
 - Endless entertainment for children and pets
 - Instant access to all information on the Internet
 - Not amazing for text entry or document creation

Evaluation and the Course Project

Your Marking Scheme

- 36% from individual submissions (assignments)
- 49% from group submissions (project phases)
- 10% lecture and tutorial participation
- 5% group contribution (peer-assessed)

Something is due pretty much every week.

This class will take tremendous time management skills (~8% per week!)

Participation

5% Tutorial participation

This is assigned for attending tutorials and for being a productive group member during the assigned tutorial activities.

5% Lecture participation

At the beginning of each class starting in Week 3, each project group will give a 30-second elevator pitch presentation explaining their progress over the past week. Each group member must deliver the elevator pitch at least once over the course of the term.

The Design Challenge

We are following the prompt for the CONNECT:
EnAbling Change 2015 Student Design Competition.
Full details here:

<http://www.dx.org/index.cfm?id=58548>

*"Students are asked to submit projects that illustrate the idea of design for all: In that the design of products and environments is **usable by all people to the greatest extent possible, without the need for adaptation.***

*The competition is open to all design disciplines, but in 2014-15, **emphasis is on accessibility in design for web and digital platforms.**"*

Assignment I

Two parts:

I. A three-paragraph blog post about yourself:

- Biography: special skills, goals for the course and work style
- Group work experience and approaches
- Briefly describe the problem space you want to address in the project

II. A three-paragraph example of good or bad design

- What is the interface like?
- What is good/bad about it?
- Who could benefit/how could you fix it?

Assignment I

Due date: Jan. 14, before 6 pm.

Submit to Blackboard as a blog post:

Part I: in the "Assignment I: Biography" blog.

Part II: in the "Assignment I: Good/Bad Design" blog.

Good and bad design entries will be discussed next week in class.

** Please bring at least one hard copy of your biography to next week's tutorial and look over everyone else's blog entries before you come to class.

Good Design

www.thedailybeast.com

THE DAILY BEAST

POLITICS ENTERTAINMENT WORLD NEWS U.S. NEWS TECH + HEALTH BEASTSTYLE WOMEN BOOKS



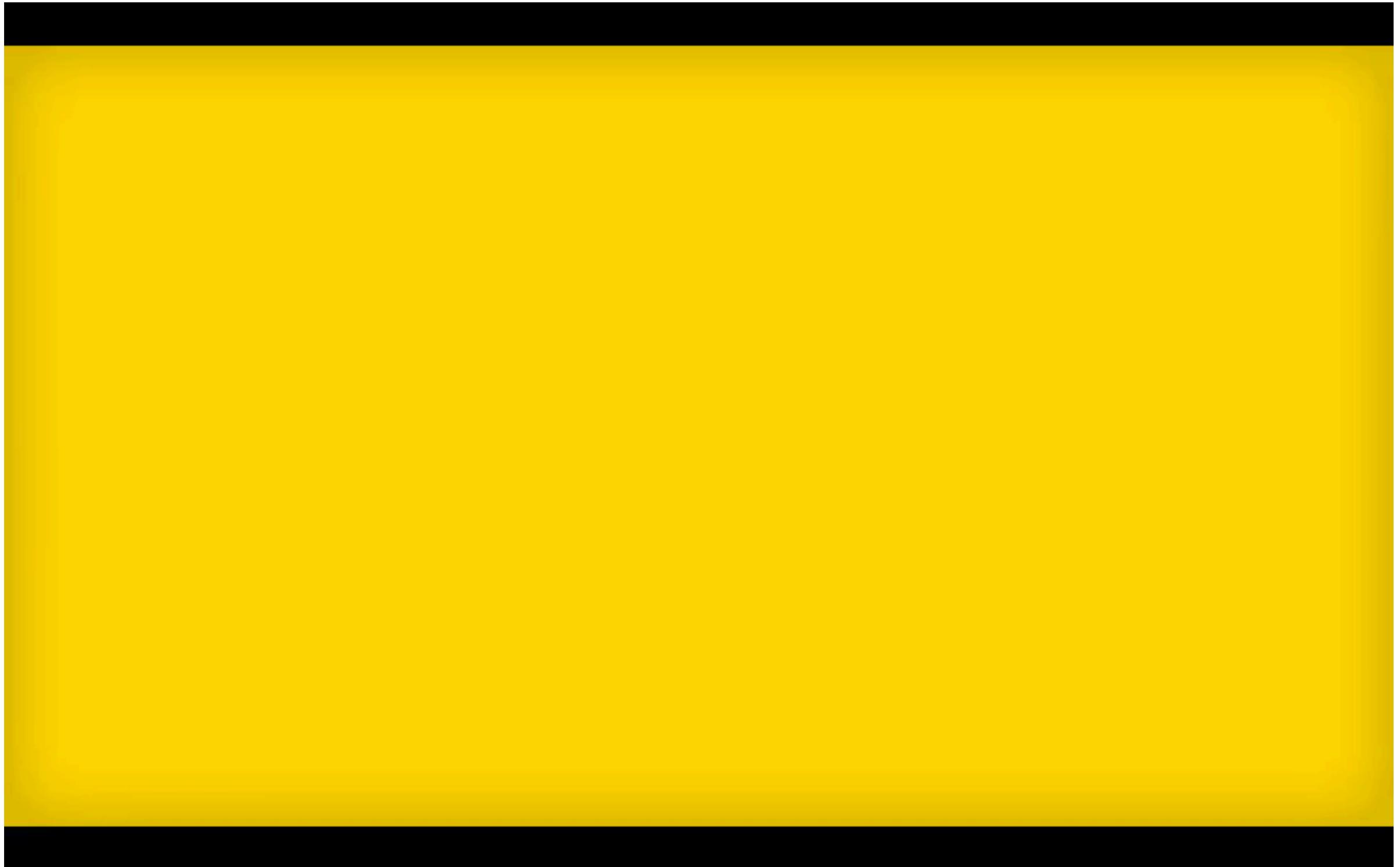
READ THIS. *list*

- 1 Benedict Cumberbatch Gets Political
by Marlow Stern
- 2 Swear To God—Or Leave The U.S. Air Force
by Dave Majumdar
- 3 Panel Discussion
from New Energy Economy
- 4 The Strange Fight Over Ike's Memorial
by Eleanor Clift
- 5 Turkey's Crucial Role In Stopping ISIS
by Christopher Dickey



Jason Merritt/Getty

Bad Design



www.youtube.com/watch?v=WTYet-qf1jo

Questions?

This lecture is based on slides and content by:

ILONA POSNER

Materials from:

Interaction Design: Beyond Human-Computer Interaction. Rogers, Sharp and Preece. 2011

References:

Readings in Human-Computer Interaction. Baecker and Buxton, 1987.
The Design of Interaction. Winograd, 1997.