

CSC318H

Design of Interactive Computational Media

Lecture 2, Week 1
January 7, 2015
CSC318H1S
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Announcements

Blackboard site will be up today.

No tutorials this week (Friday).

Questions after class: follow me out the right-hand side door.

AI is due next Wednesday (Jan. 14) and the handout will be posted on Blackboard when it's up.

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



Human-Computer Interaction

Human-Computer Interaction

1980's

*"HCI is the set of **processes, dialogues** and **actions** through which a **human** user employs and **interacts** with a **computer**."*

(Baecker & Buxton, 1987)

The initial focus in HCI was on the properties of various I/O devices, on improving their accuracy and on understanding the user's raw cognitive capabilities with respect to learning how to use them.

Human-Computer Interaction

1990's

*"HCI is a discipline concerned with the **design**, **evaluation** and **implementation** of interacting computing systems for human use and with the study of major phenomena surrounding them."* (ACM SIGCHI 1994)

This definition implies a sequence of steps in which evaluation of a user interface comes before its implementation. It also hints at the need to understand users in a more significant way.

Human-Computer Interaction

2000s

*"An interdisciplinary field focused on the **interactions** between human users and computer systems, including the user interface [that seeks to] create **effective, efficient, and satisfying interactions**."* (McGraw-Hill Concise Encyclopedia of Engineering 2002)

The user's subjective experience matters more and more, as interactive systems pervade more and more of our lives.

Human-Computer Interaction

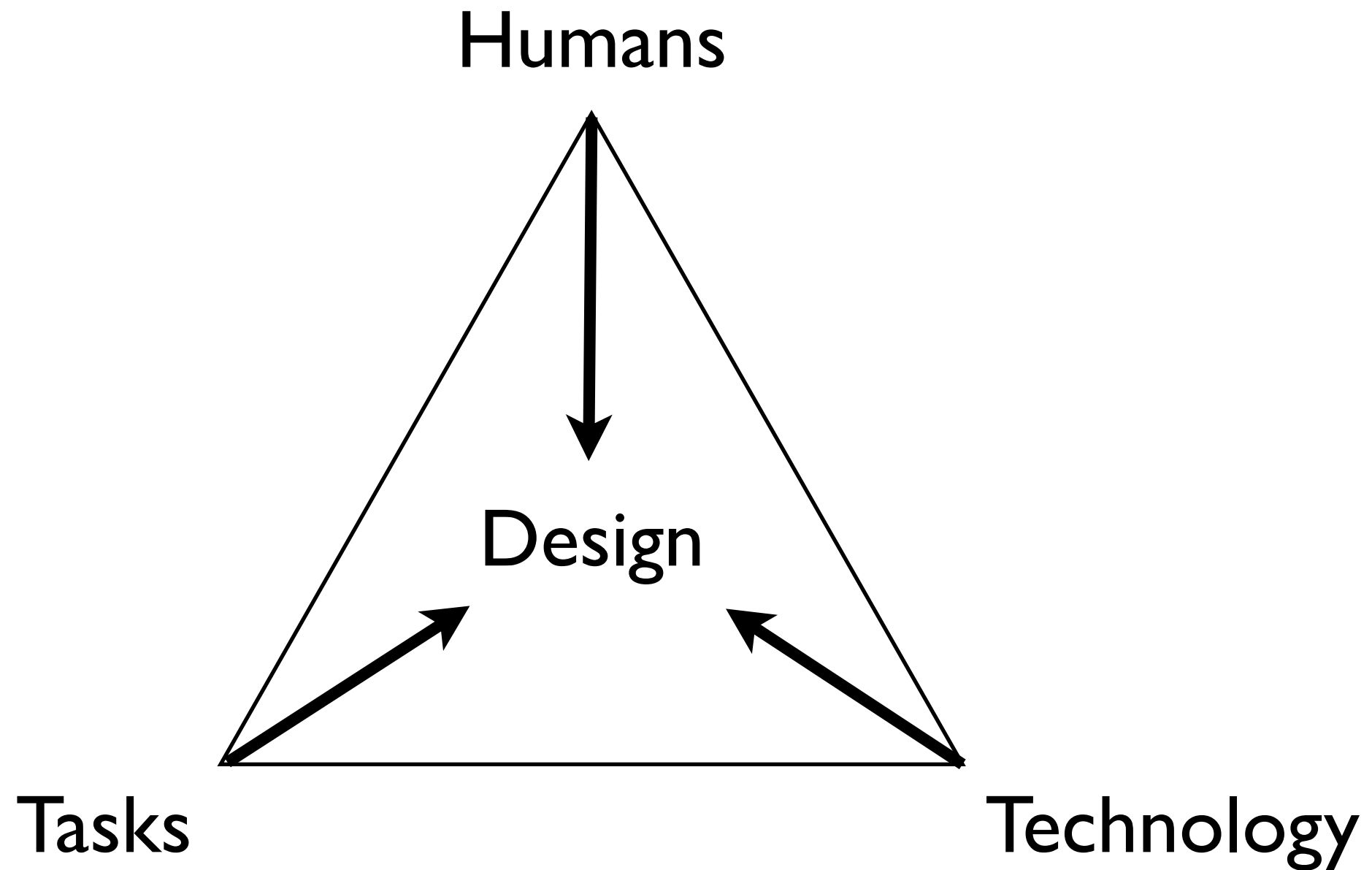
Some current trends:

User customization: users can customize, remix and reinvent interfaces to suit their needs.

Embedded computation: new computational interfaces are all around us: smart appliances, ambient interactions, and wearables.

Augmented reality: navigation, gameplay, just-in-time information overlaid on our world.

Human-Computer Interaction



Interaction Design

- Designing interactive products to support people in their everyday and working lives (SRP 2011)
- The design of spaces for human communication and interaction (Winograd 1997)

This is a highly multidisciplinary process that involves **CREATING** something new.

User Experience

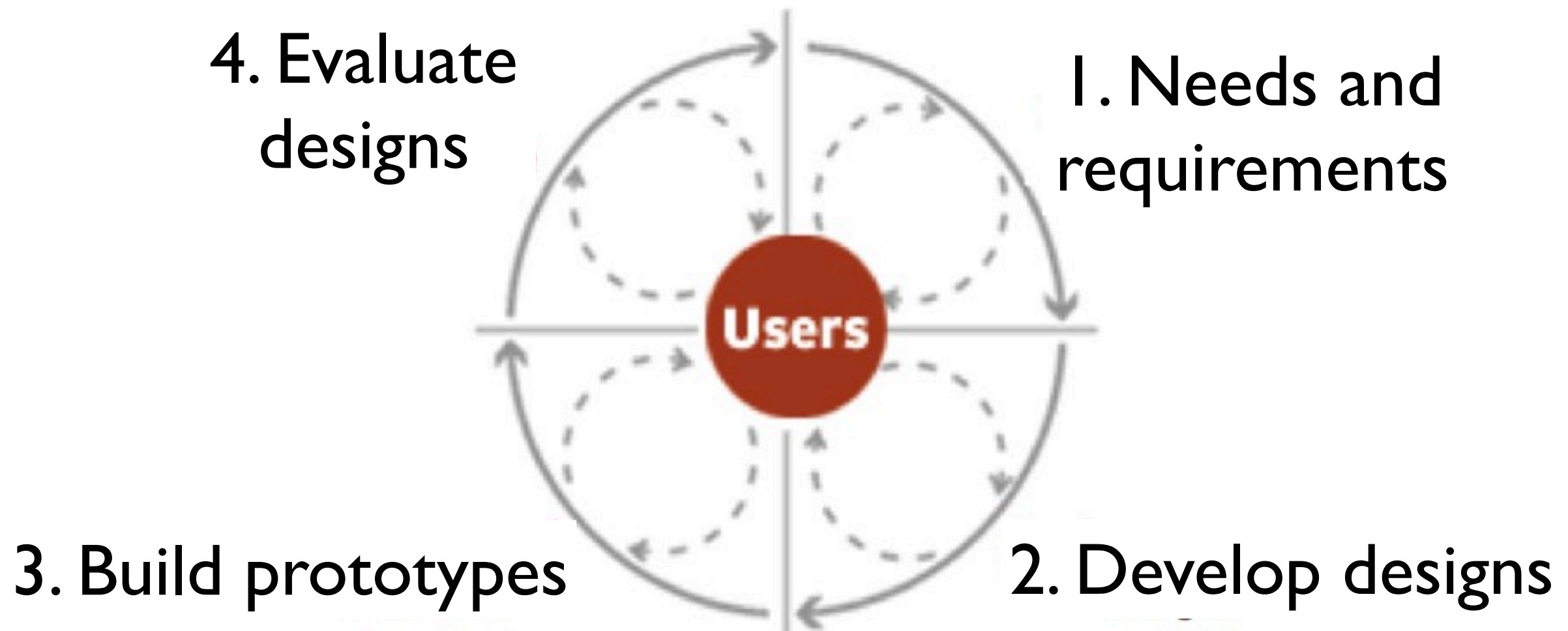
- Everything that the user sees, hears and touches.
- The overall experience a user has with a product, service or event.
- How satisfying, usable, and well-designed users perceive an interface to be.

This is the phenomenon you need to **UNDERSTAND** and **STRIVE TO IMPROVE** in order to succeed when designing interactions.

Iteration and Evaluation

The user experience is a crucial driving force in interaction design.

User-Centered Design (UCD) involves testing with users at every stage of the design process.



The Project Stages

- Introduce yourselves (A1) and form groups.
Come up with a problem space (Phase I)
- Conduct background research (A2) and submit a research plan and instruments for ascertaining user needs (Phase II)
- Administer research instruments (A3) and aggregate results into a set of design requirements (Phase III)
- Design prototype solutions (A4) and come up with a plan for evaluating your group's consensus solution (Phase IV)
- Evaluate another group's prototype (A5), then submit your final project as an abstract, poster and presentation.

Past and Future in Human- Computer Interaction

Curve of Innovation



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

Curve of Innovation

"The wand of Narcissus"



Self-portrait camera stick (1995)



Quik Pod (2006)



All Selfie Sticks (2015)

Critical Thinking and User Needs



www.youtube.com/watch?v=MOXQo7nURs0

Evaluation and the Course Project

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

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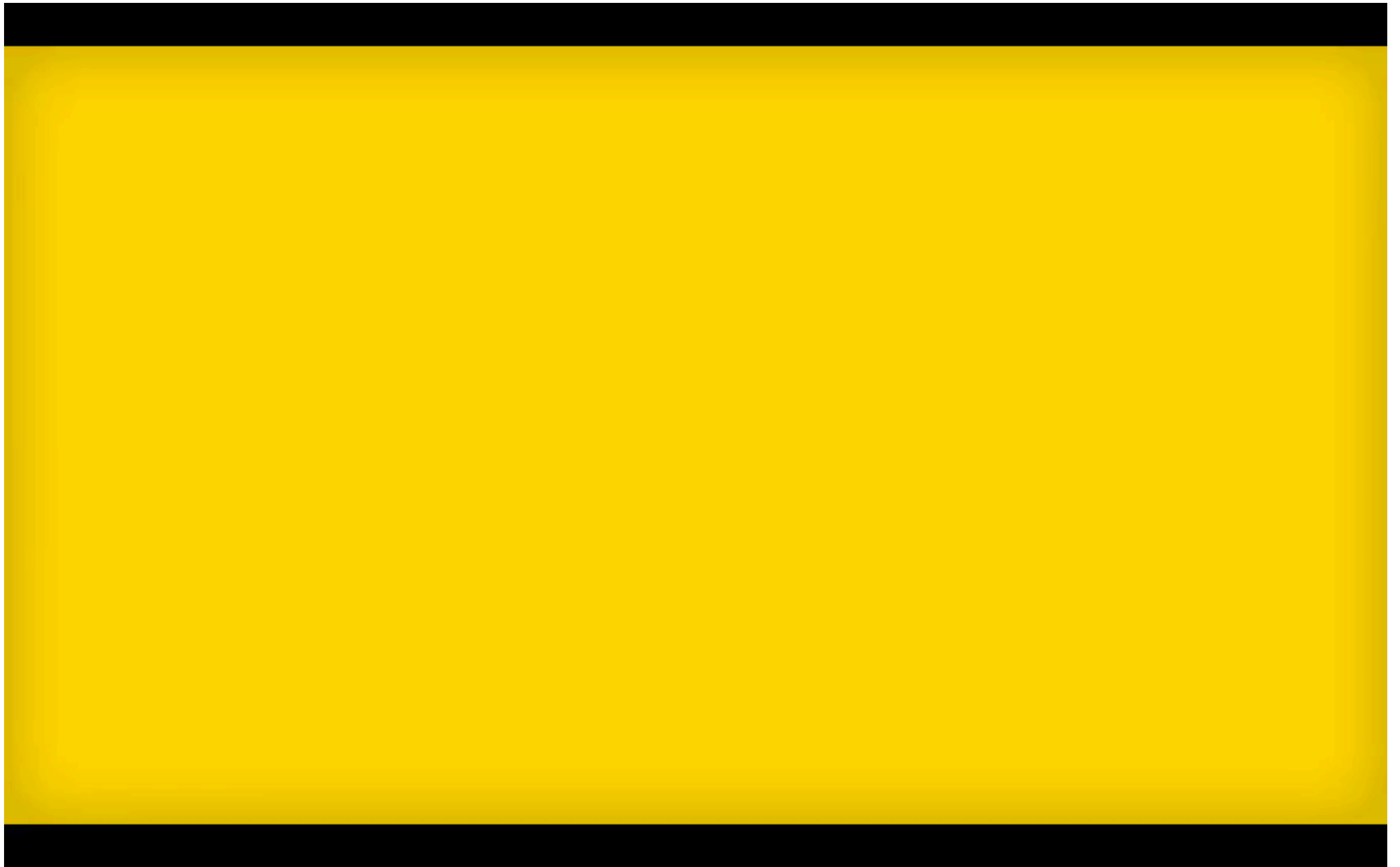
Jason Merritt/Getty

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

ENTERTAINMENT 09.08.14

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.