



Perception

Lecture 18, Week 10

March 11, 2015

CSC318HIS

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Announcements

- Elevator pitches will be optional.
- 1 pitch = 4%, 2 pitches = 5%
- Phase 2 and Phase 3 feedback on TEAMMATES

Phase 4

Phase 4 is due in three stages:

- Friday: Conduct informal evaluation with stakeholders, group members or usability experts.
- Wednesday Mar. 18 at noon: submit Phase 4, including prototypes.
- Friday Mar. 20: Come to the tutorial slot in this room to perform official evaluation for A5.

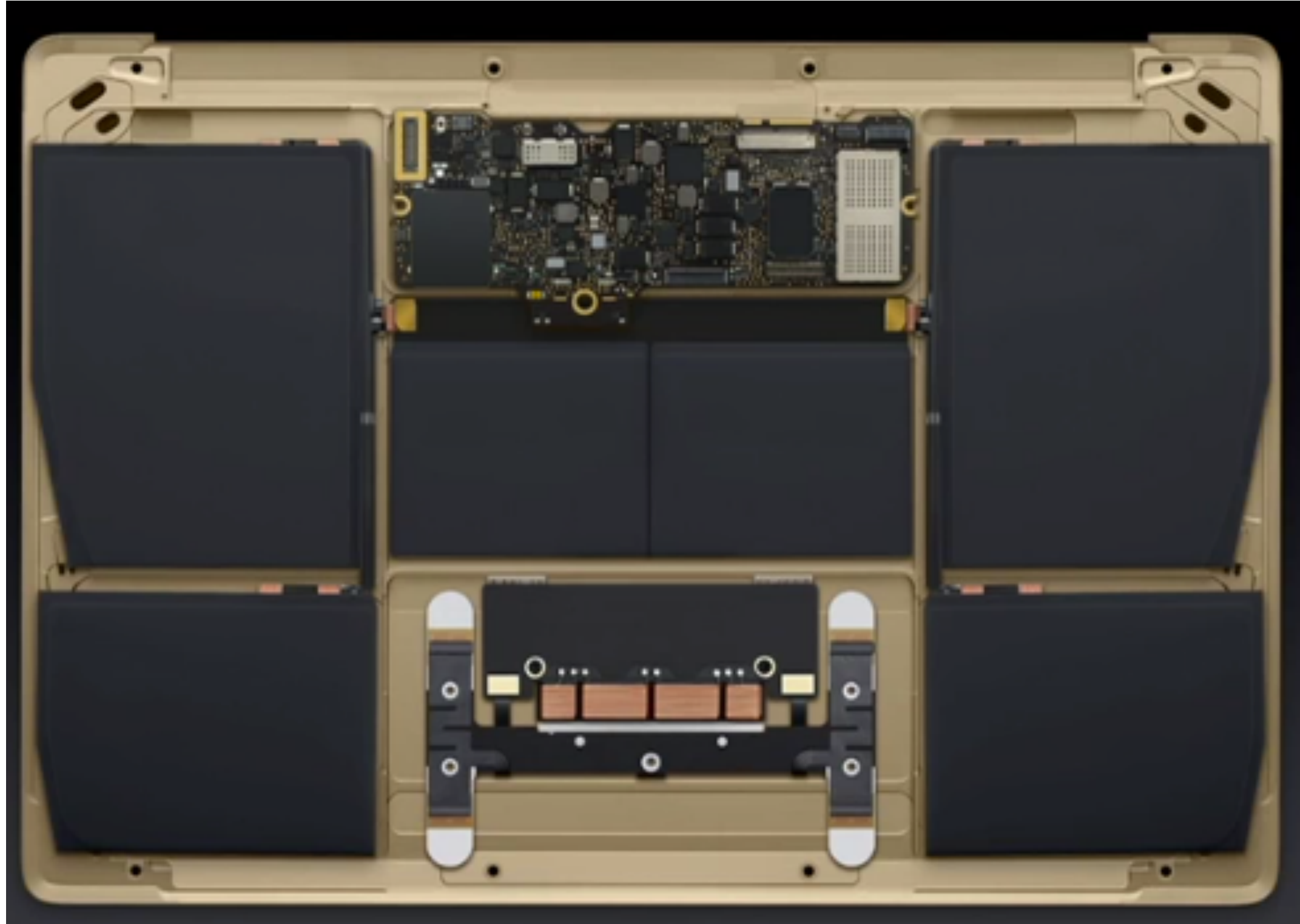
The Apple Event

Real laptops have ports?

The new MacBook has a single USB-C port for everything.

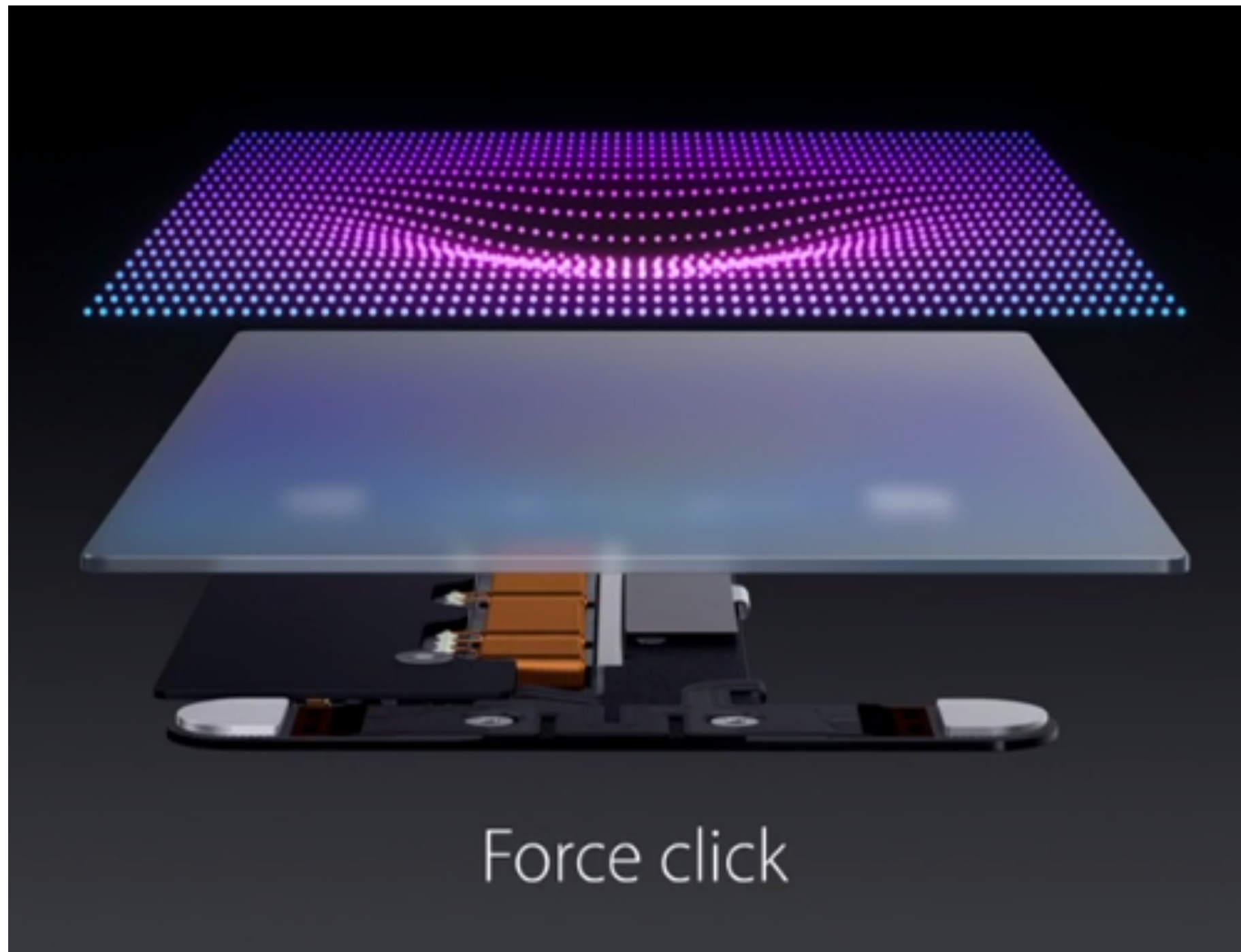


Brain vs Battery



A new affordance.

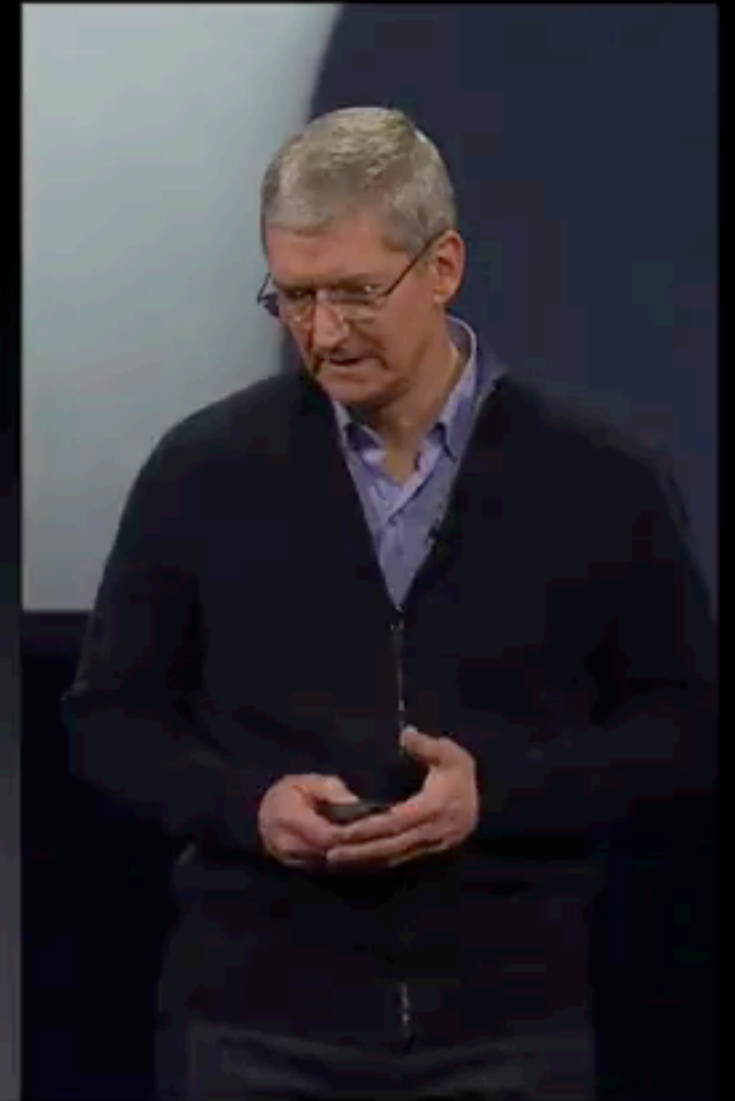
The force of a click matters.



A new affordance.



Apple Watch



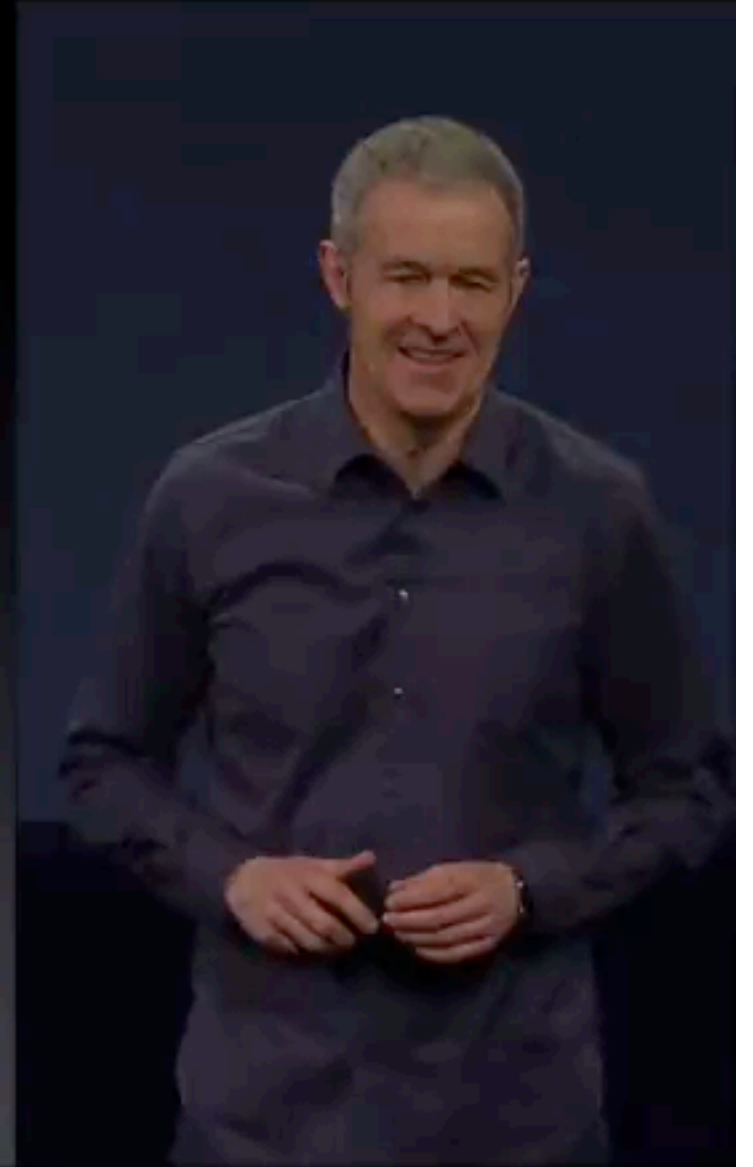
Apple Watch Edition

10000\$ for a smartwatch.



Research Kit

Medical Research



Research Kit Implications

Open source is good.

Only iPhones?

Participants have access to data before it has been analyzed.

Medical professionals and researchers out of the loop.

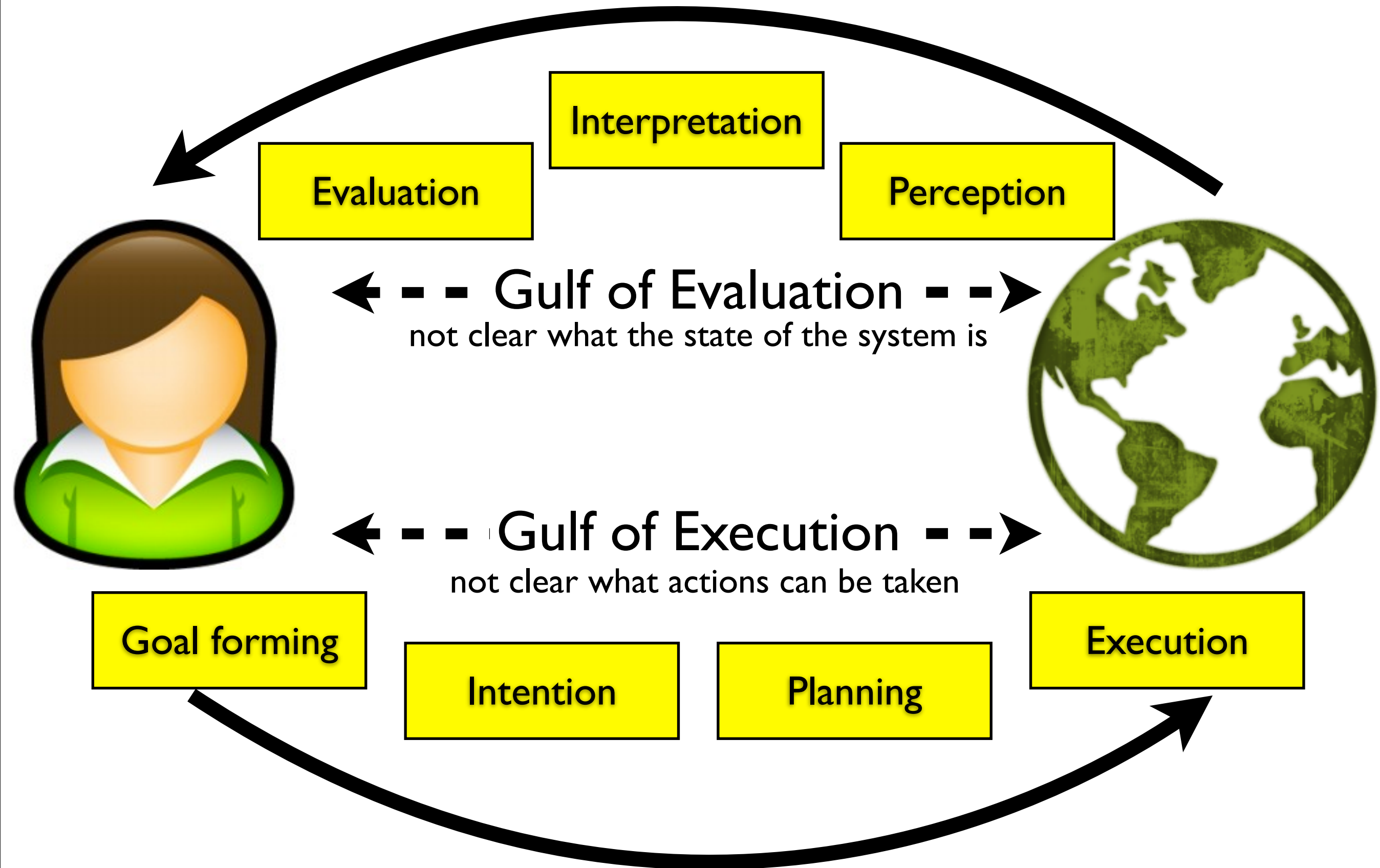
Privacy

Is consent informed?

Identity verification?

Cognition and Action

Norman's Stages of Action



Perception

Perception

Perception: identifying, organizing and interpreting information about our environment we receive through the senses, typically to ***guide action***.

Perception occurs outside our conscious awareness and is virtually impossible to influence.

Two types of processes interact in perception:

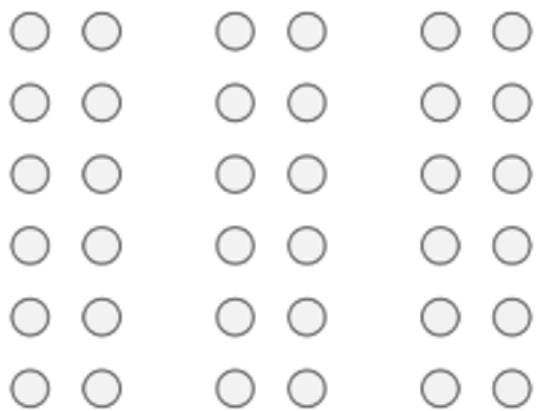
Bottom-up processing: combining information from individual sensory cells into more complex representations of objects.

Top-down processing: previous knowledge, memory, expectations and attention.

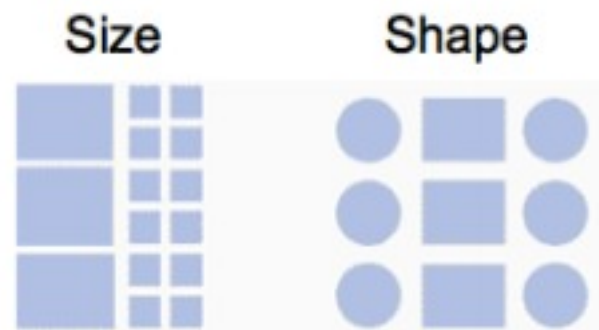
Gestalt Principles of Perception

Gestalt: objects are perceived in their entirety, not as collections of features (lines, shapes) first.

Several Gestalt principles of grouping (objects are likelier to be perceived as part of a whole if):



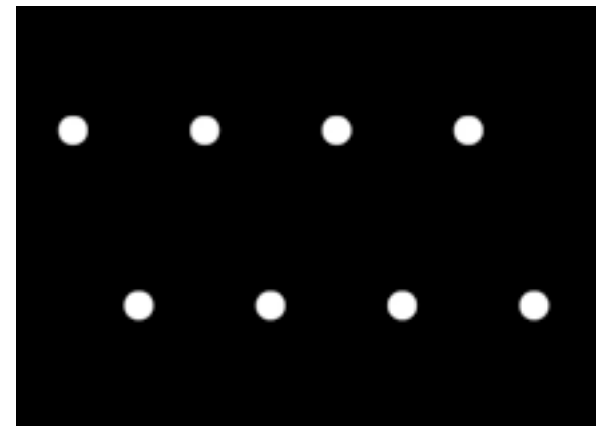
Proximity



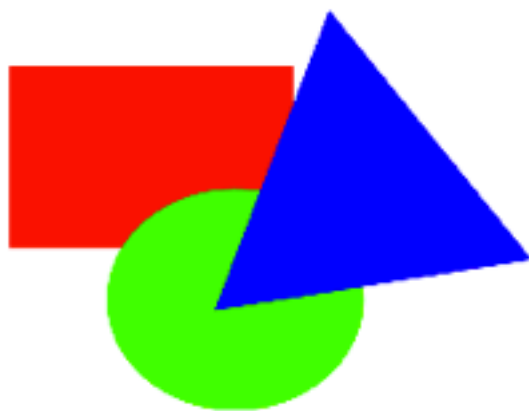
Similarity



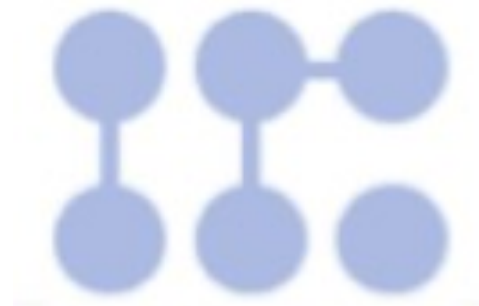
Closure



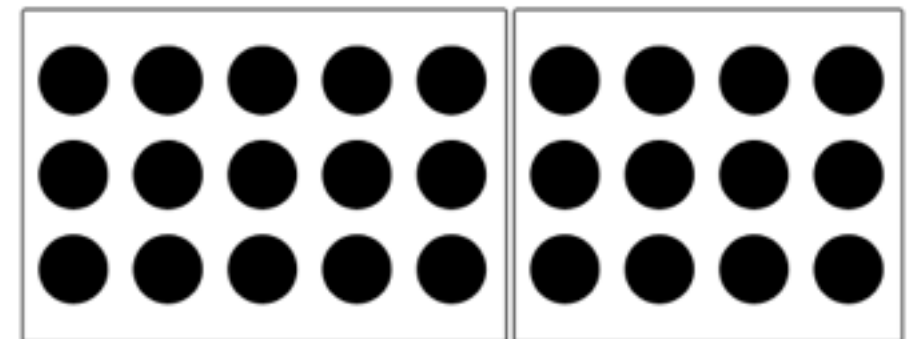
Common fate



Good form



Connectedness



Common area

Sources: Ilona Posner, Karsten Vestergaard, Smasing magazine

Information Processing Example

Double room at the Holiday Inn in Bradley

Pennsylvania
Bedford Motel/Hotel: Crinaline Courts
(814) 623-9511 S: \$18 D: \$20
Bedford Motel/Hotel: Holiday Inn
(814) 623-9006 S: \$29 D: \$36
Bedford Motel/Hotel: Midway
(814) 623-8107 S: \$21 D: \$26
Bedford Motel/Hotel: Penn Manor
(814) 623-8177 S: \$19 D: \$25
Bedford Motel/Hotel: Quality Inn
(814) 623-5189 S: \$23 D: \$28
Bedford Motel/Hotel: Terrace
(814) 623-5111 S: \$22 D: \$24
Bradley Motel/Hotel: De Soto
(814) 362-3567 S: \$20 D: \$24
Bradley Motel/Hotel: Holiday House
(814) 362-4511 S: \$22 D: \$25
Bradley Motel/Hotel: Holiday Inn
(814) 362-4501 S: \$32 D: \$40
Breezewood Motel/Hotel: Best Western Plaza
(814) 735-4352 S: \$20 D: \$27
Breezewood Motel/Hotel: Motel 70
(814) 735-4385 S: \$16 D: \$18

Information Processing Example

Double room at the Quality Inn in Columbia

South Carolina					
City	Motel/Hotel	Area code	Phone	Rates	
				Single	Double
Charleston	Best Western	803	747-0961	\$26	\$30
Charleston	Days Inn	803	881-1000	\$18	\$24
Charleston	Holiday Inn N	803	744-1621	\$36	\$46
Charleston	Holiday Inn SW	803	556-7100	\$33	\$47
Charleston	Howard Johnsons	803	524-4148	\$31	\$36
Charleston	Ramada Inn	803	774-8281	\$33	\$40
Charleston	Sheraton Inn	803	744-2401	\$34	\$42
Columbia	Best Western	803	796-9400	\$29	\$34
Columbia	Carolina Inn	803	799-8200	\$42	\$48
Columbia	Days Inn	803	736-0000	\$23	\$27
Columbia	Holiday Inn NW	803	794-9440	\$32	\$39
Columbia	Howard Johnsons	803	772-7200	\$25	\$27
Columbia	Quality Inn	803	772-0270	\$34	\$41
Columbia	Ramada Inn	803	796-2700	\$36	\$44
Columbia	Vagabond Inn	803	796-6240	\$27	\$30

Source: idbook.com

Adaptation and Contrast

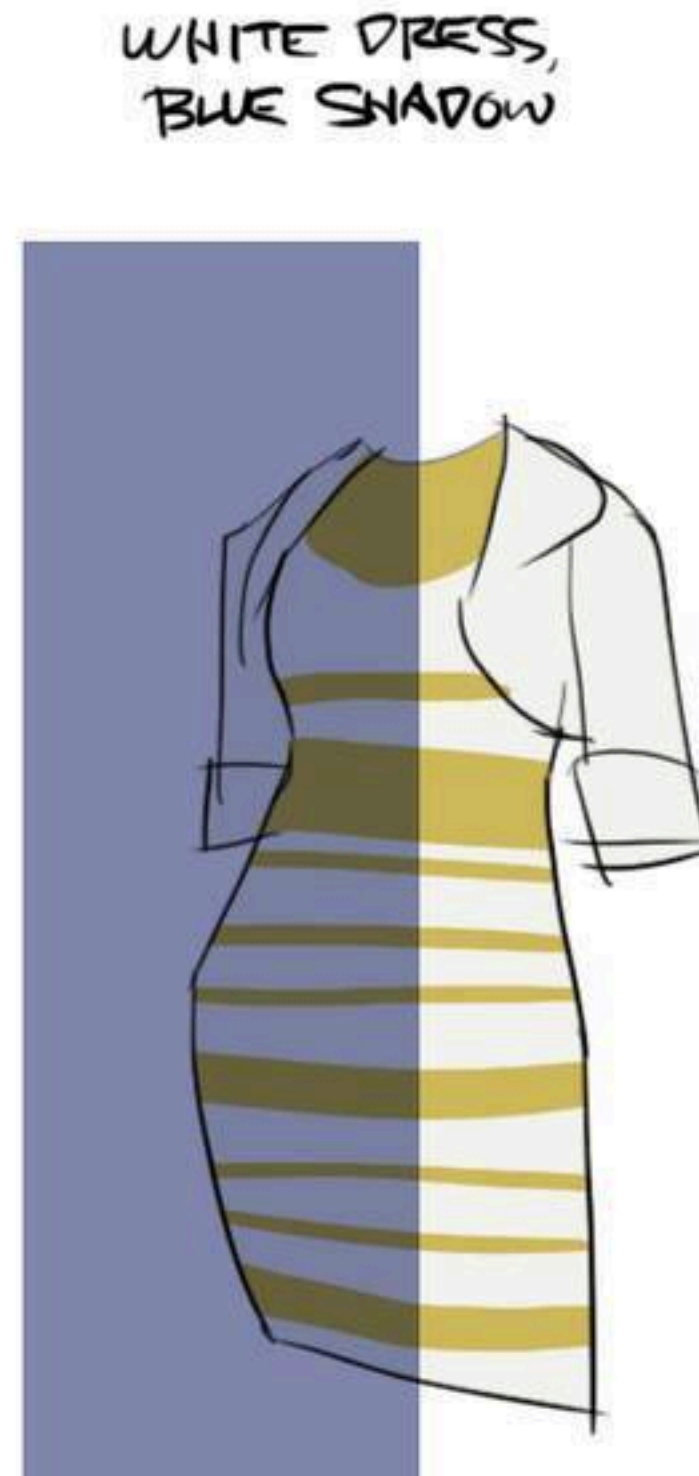
Perception has one higher purpose: to distinguish what is important / salient / about to eat you from what is not.

To do so, our senses will adapt to ambient levels (light/dark, quiet/loud) and perceive them as normal, while still being sensitive to changes.

"Cocktail party effect": you can tune out a multitude of conversations you are not a part of.

But if someone calls out your name, you are likely to attend to that stimulus.

Top-down processing



Top-down processing



Perception Implications

- text and visual elements should be legible and clearly contrast from the background
- avoid overreliance on colour, especially when lighting conditions are sparse or unknown
- avoid putting salient information far away from the foveal focus OR make it appropriately large
- bordering, spacing and colour are effective ways of grouping visual elements
- sound cues should be audible and distinguishable

Assignment 5

A5 will be an individual reflection on how your feedback and participation helped your classmates.

Be prepared to volunteer as a user, as an expert or as a pilot participant.

You should keep detailed notes of any pilot testing, usability testing, heuristic evaluations, etc. you perform for other groups.

Questions?

This lecture is based on slides and content by:

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Materials from:

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