

Designing Interactive Systems I

Possible types of History questions and midterm content review

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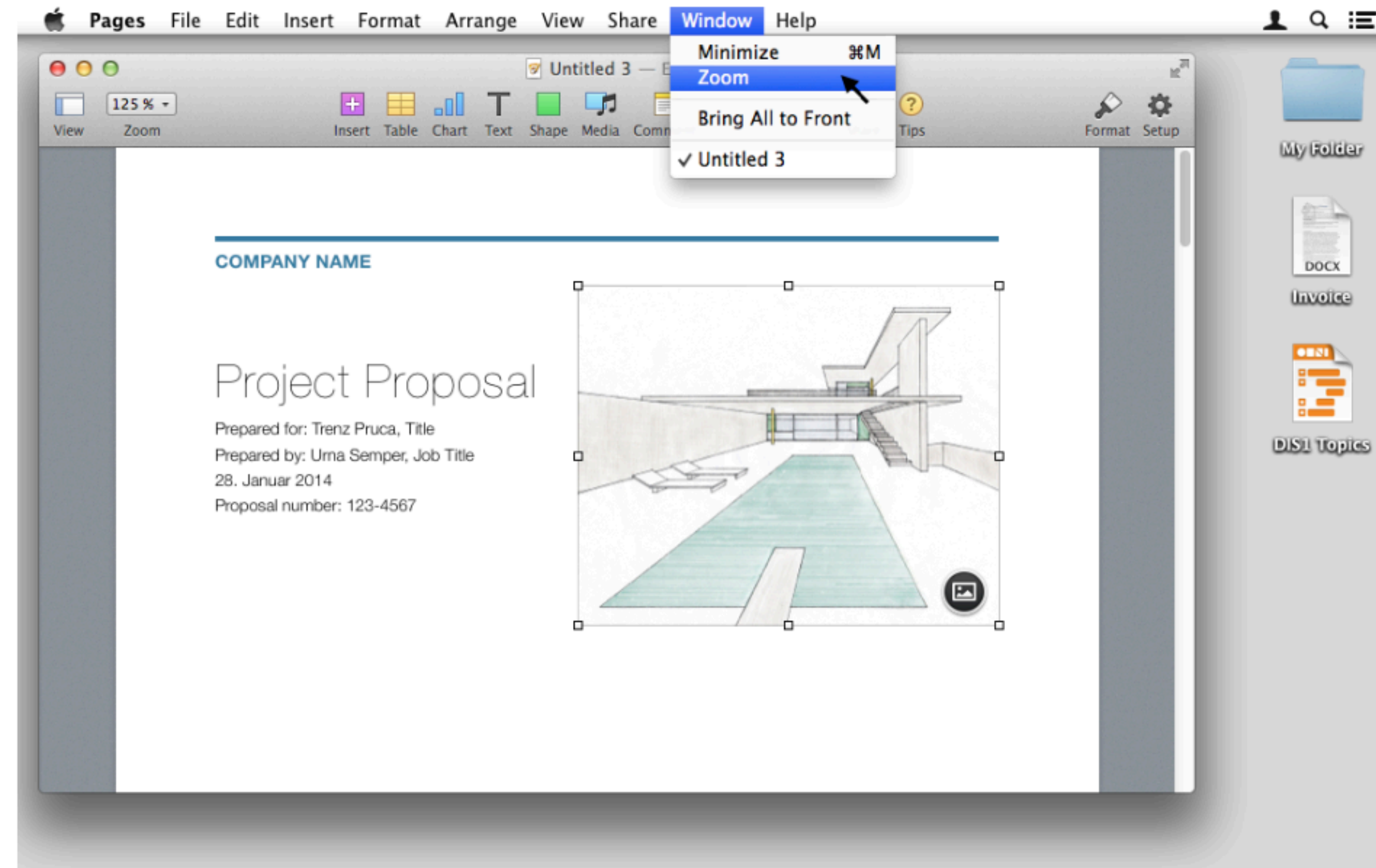
<http://hci.ac/dis>



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Example Question History 1

19. [3 points] From the screenshot of a macOS app shown below, name **three different** user interface concepts that were introduced by Xerox Alto or Star.



- Concept 1:
- Concept 2:
- Concept 3:

Example Question History 2

7. [2 points] The four *phases of technology lifecycle* are represented below through relevant terms:

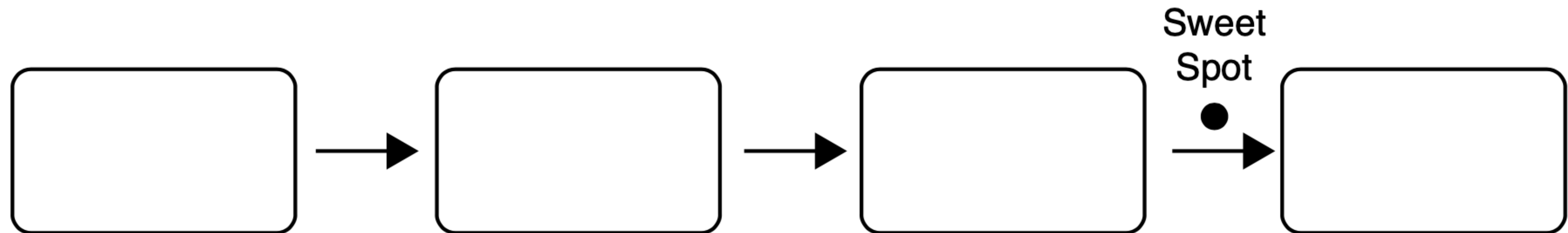
1: “Work”

2: “Explore”

3: “Feature Creep”

4: “Enjoy”

Match the terms to the corresponding phase and *fill* in the following image of technology phases with the corresponding **number** of the appropriate phase.

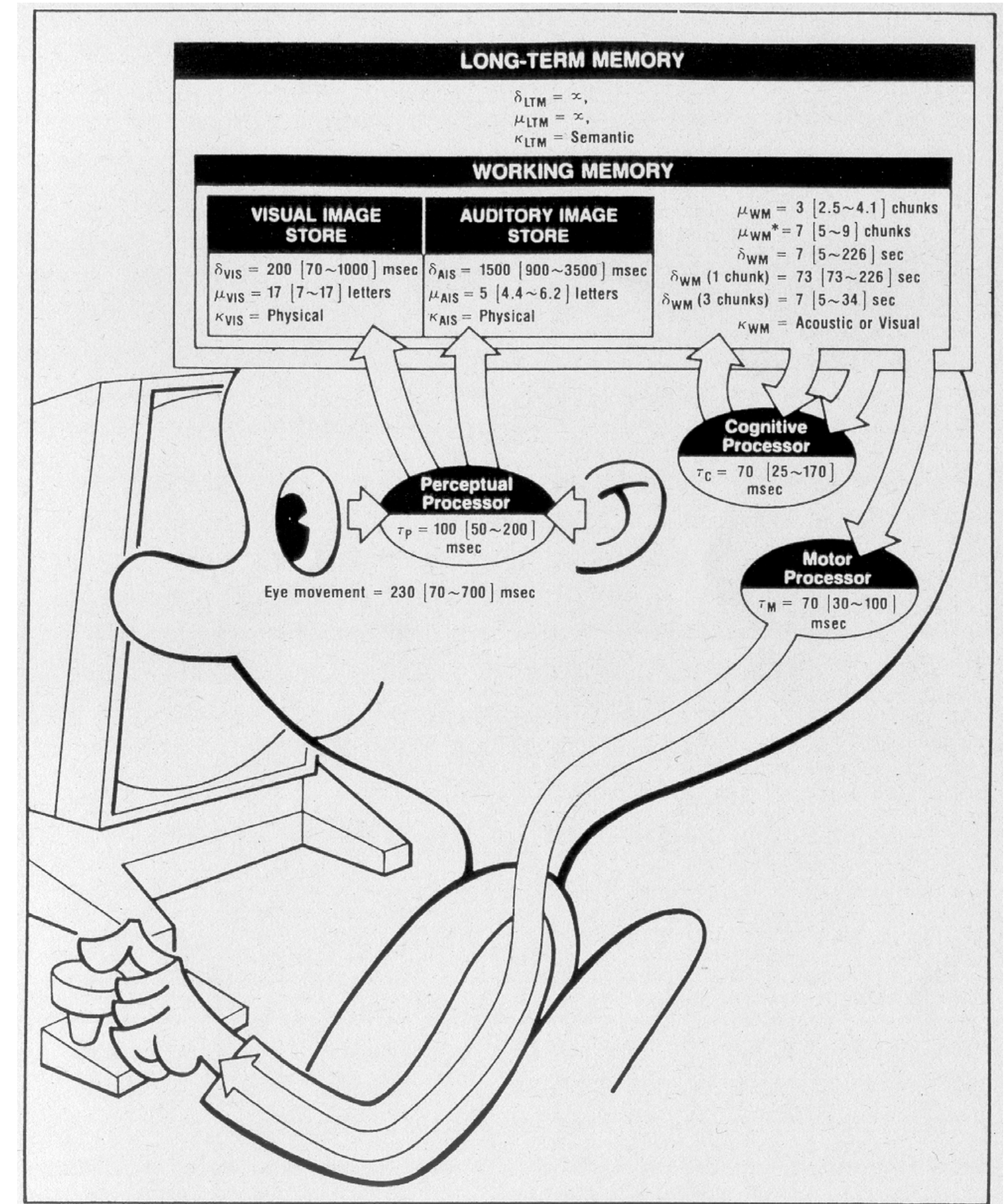


Review: Midterm Exam Content



CMN Model

- What are the three processors in the CMN model?
- What is Bloch's law?
- What is the capacity of working memory?
- What are open loop and closed loop?



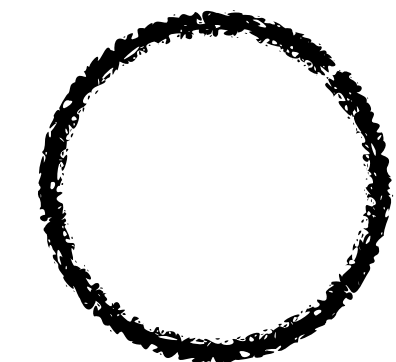
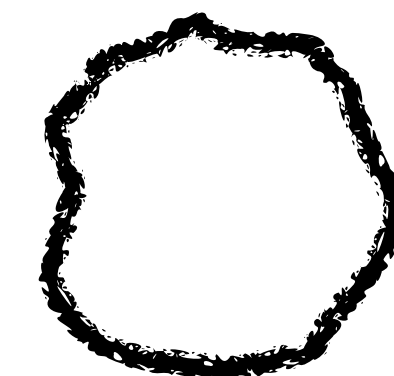
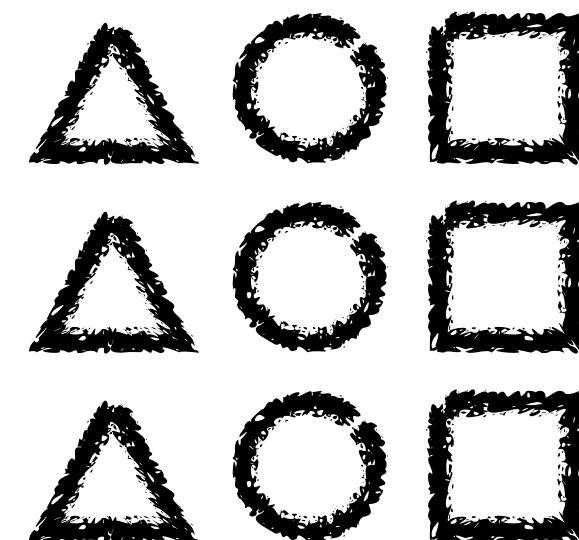
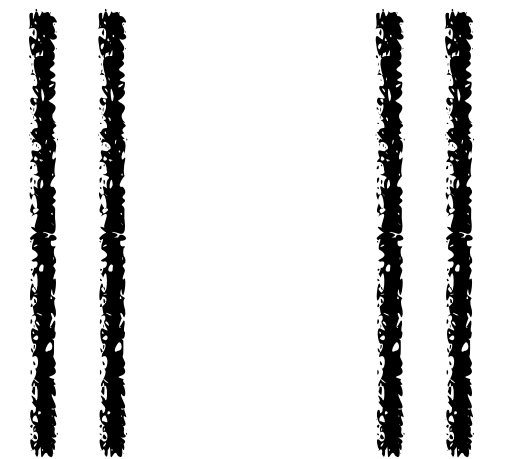
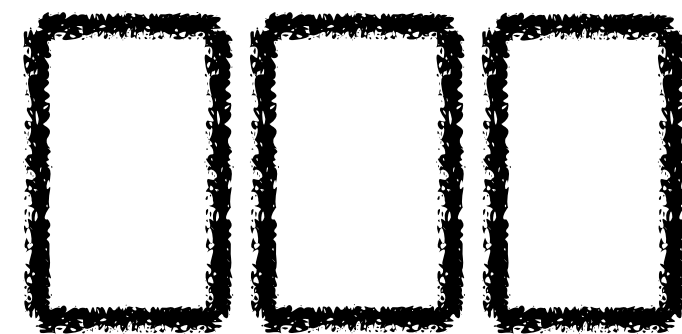
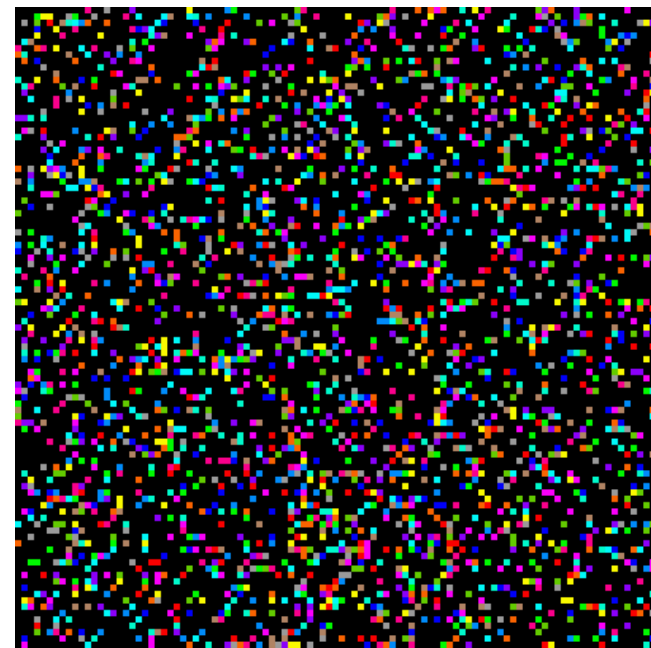
Fitts' Law

- Write down the Shannon's formulation of Fitts' law
- How is the Shannon's formulation an improvement over the original Fitts' law?



Gestalt Laws and Information Content

- What are Gestalt laws?
- What are some of the Gestalt laws?
- What is information content?



Design Principles

- What is visibility?
- What are signifiers and affordances?
- What is feedback?
- What are mappings?
- How can we achieve natural mappings?



Spatial vs. Perceptual Analogies

- **Spatial analogy**

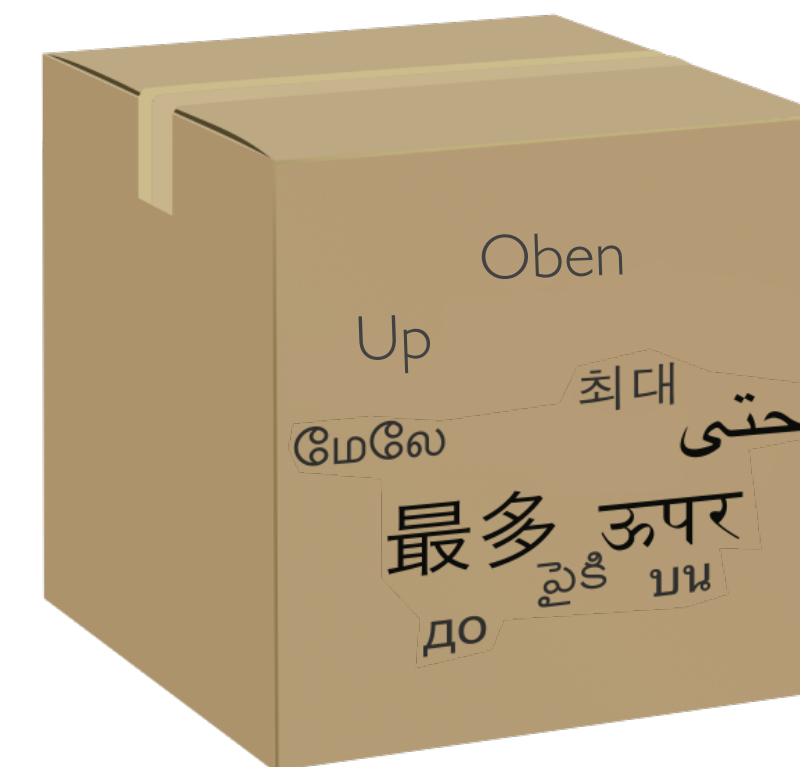
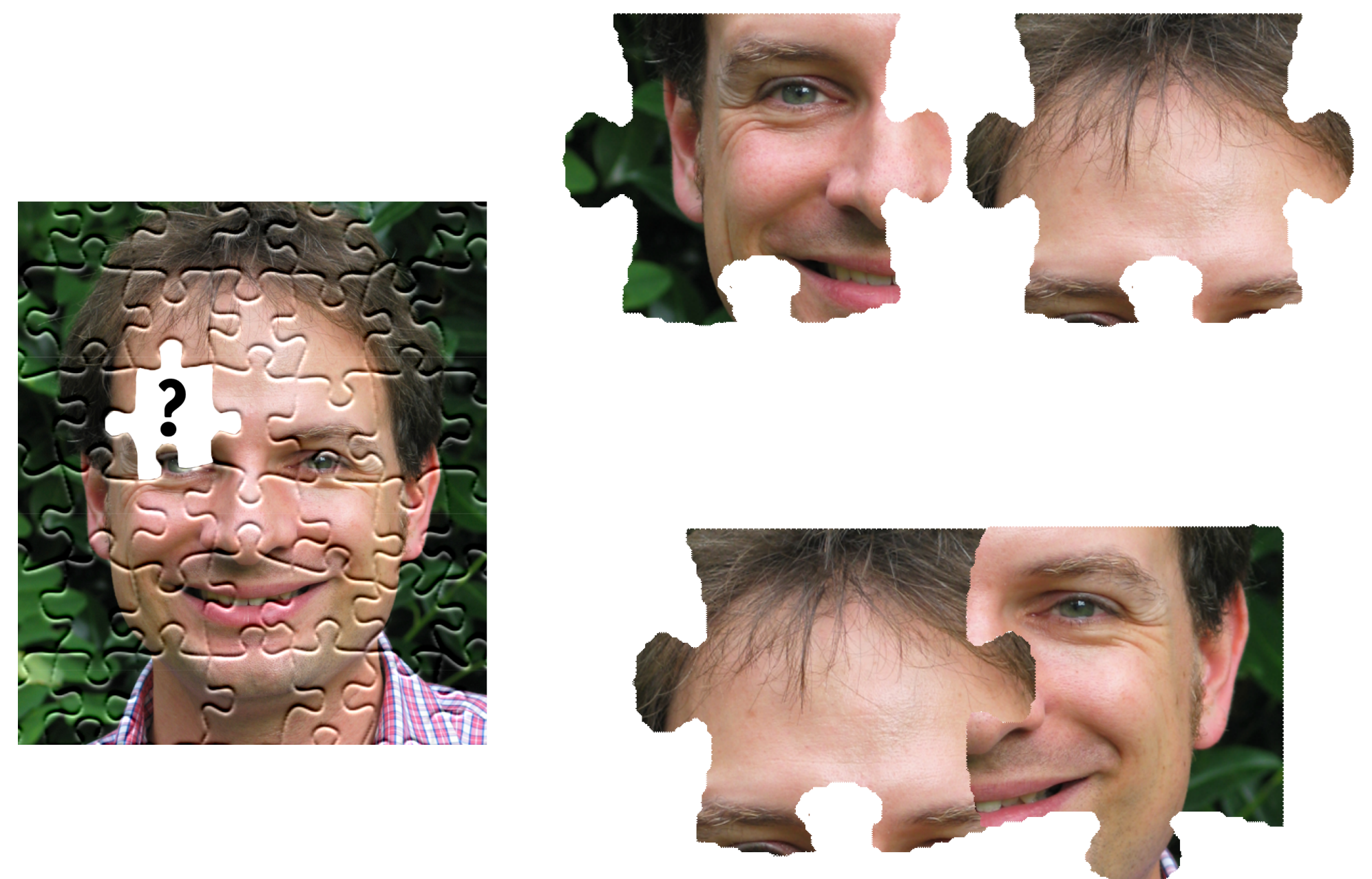
- Controls are arranged in the same spatial layout as the objects they control
- Move controls in the same direction you want to move the object
- But: Control does not look like the object

- **Perceptual analogy**

- Control looks like the object and you interact with it using a metaphor

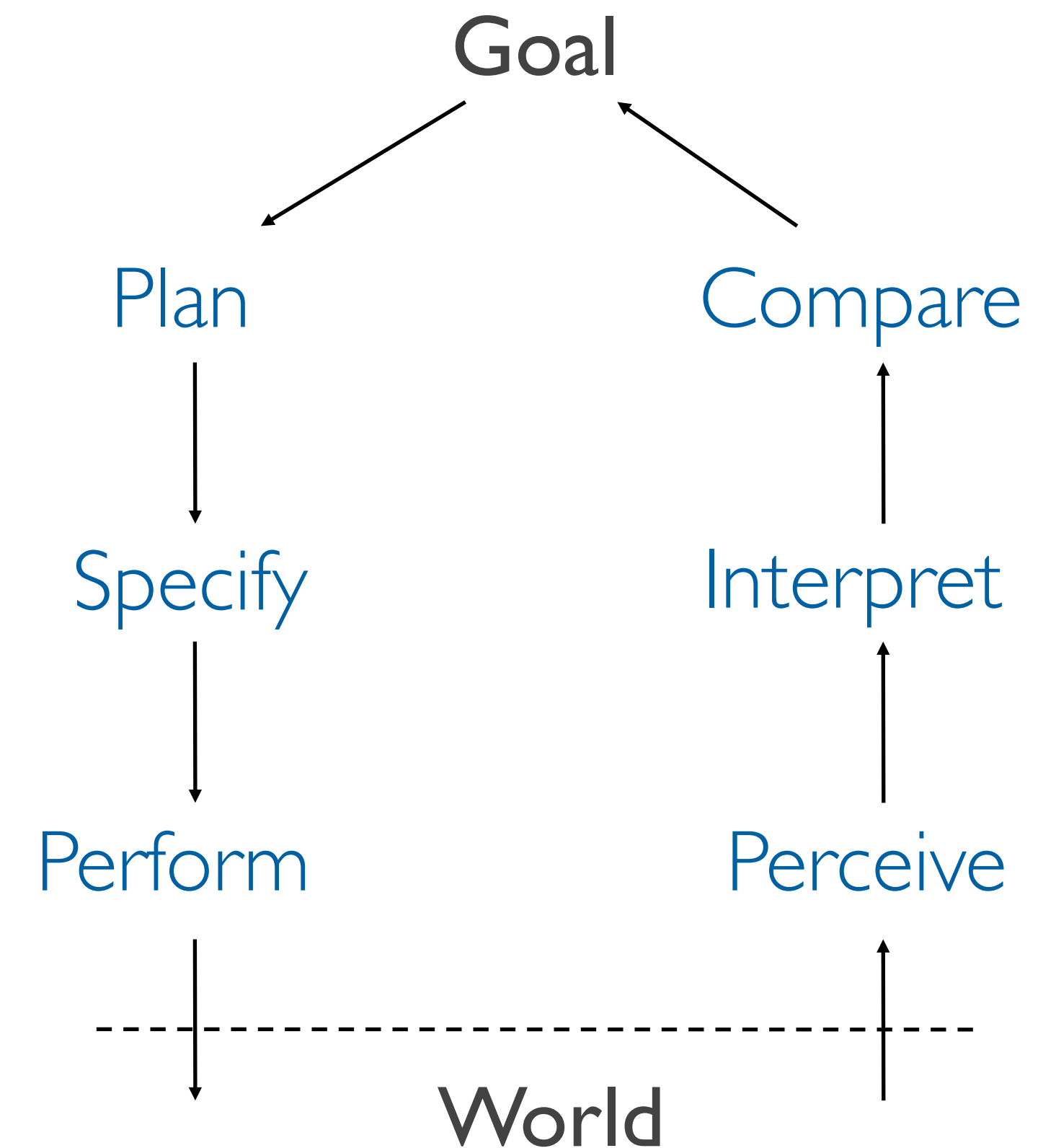
Constraints and Conceptual Models

- What are constraints? Types?
- What are forcing functions? Types?
- What are conceptual models?



Seven Stages of Action

- What are the seven stages of action?
- What are the two main types of gulf?
 - How do you bridge them?
- What are the three levels of processing/design?
 - Why is it important to know about them?



When Does a Gulf Occur?

- For the sake of usefulness, consider something a gulf when you find that it can be fixed by a re-design.
- This should accommodate almost all problems a user faces when performing a task. ;)
- Example: “Krishna wants to use Siri on his iPhone, but cannot understand the language.”
 - Gulf between Perceive -> Interpret, can be fixed by adding support for the language.

Knowledge

- Why are knowledge in the head and knowledge in the world it important?
- What are the two types of knowledge (in the head)?
- What are the types of decision structures?



Human Error

- What is an error?
- What are the two types of error? On what basis are they classified?
- What are the classes of mistakes?
- What are the classes of slips?
- What are the types of action-based slips?
- What are some design principles to design for error?



History I

- Why were mainframes referred to as 0-D interface?
- What are some technologies predicted by Memex?
- What are some key advances of the Sketchpad?
- What are some key advances of NLS?
- How is Engelbart's first mouse different from the current mouse we use?



History II

- What is Ubiquitous Computing?
 - Can you name some current examples of ubiquitous technology?
- What are the key advances introduced by
 - Put-that-there
 - Apple Knowledge Navigator
 - Sun Starfire
- What are the 3 PARC Devices designed for Ubicomp?
 - How are they used?



Visual Design

- What are the four visual design principles?
 - Contrast? Repetition? Alignment? Proximity?
- How does the Newton's color circle work?
- What are some different types of fonts you learnt in the lecture?



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What Next?

- Please be at the exam hall (0.109) by **17:00** sharp! Wait outside the exam hall—we'll let you in.
- Bring
 - Blue or black pens
 - Snacks and water bottle
 - RWTH blue card or another photo ID

