

# Excercise 1 presentation

Maik Schünemann

June 10, 2014

# Outline

# Outline

- ▶ Components and Processes
- ▶ Dealing with the example problems
- ▶ Examples

# Components and Processes

To be able to process visual stimuli we need the following components:

- ▶ Perceptual System Responsibilities:
  - ▶ Build a model of the visual stimuli suitable to further processing.
  - ▶ Build a model of the given task
- ▶ Strategical System Responsibilities:
  - ▶ Models the thinking process
  - ▶ Designs a strategy of how to approach the problem
- ▶ Processing System Responsibilities:
  - ▶ Executes the chosen strategy
  - ▶ Stores results in the memory system

# Components and Processes

- ▶ Memory System Responsibilities:
  - ▶ In this problem domain we only need short term memory
  - ▶ Simply provides a place to store information
- ▶ Temporal System
  - ▶ Gives the architecture a sense of time
  - ▶ Can cancel current actions when there is no time left

# Dealing with the example problems

## Task is described

- ▶ Perceptual System responsible for modeling and storing the model in memory
- ▶ Strategical System decides about the strategy
- ▶ Temporal system sets timer

## Picture is shown

- ▶ Perceptual system models the system and stores model in memory
- ▶ Processing system is invoked to execute the chosen strategy
  - ▶ Stores intermediate results in memory
- ▶ When no time is left gets interrupted by the memory system
- ▶ Has chance to make a guess about the final result

# Models

## Task

- ▶ modeled after features it has to recognize when looking at a single cell

## Picture

- ▶ Matrix of cells containing features of objects at the position

## Strategy

determines:

- ▶ which order to process the cells of the picture
- ▶ guess when no time is left

## Simple strategy

- ▶ scan top to bottom left to right
- ▶ return number of matching objects counted if no time is left

# Examples

Live.....