

## Übung 9 – Mensch-Maschine-Interaktion 2

### **Exercise 9: Preattentive Processing - Pop Out Effect (Optional)**

#### **A) Implementing a Test Application for Preattentive Processing (team work, 3-5 students)**

Visualize a set of objects that includes one object that is different, e.g. 50 small circles and one 1 small square. To demonstrate the principle of preattentive processing you should write a test application that allows the following:

- the user can specify the number of objects (16-400)
- after pressing the start button the objects are randomly scattered on a surface
- at one random position the pop-out object is placed
- the time till the user clicks on this object is measured

#### Hint for placement

Based on the overall number of objects selected by the user create a grid that has one cell for each object. Place each object at a random position within its cell. This avoids problems with overlapping visualizations.

#### Implementation

Use a picture for the objects. It is up to each group to select an appropriate platform – sensible options seem PHP/JavaScript/HTML, Flash, Java, and Visual Basic.

#### **B) Show examples of Preattentive Processing and non-Preattentive Processing**

Use different objects and show by recording the time needed to spot the object in relation to the overall number that some arrangements are preattentive processing and others are not.

Exercise 9 is **optional**. If you have a solution please let us know! Submit your solution via email to Andreas Pleuss ([Andreas.Pleuss@ifi.lmu.de](mailto:Andreas.Pleuss@ifi.lmu.de)). You may solve the tasks in team work (**3-5 students**).