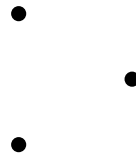<div align="center">

Creative Computing II
Motion Perception and Gestalt
Wednesday 3rd November 2010

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1. This part of the lab implements demonstrators for beta motion and the phi phenomenon motion illusions.

   (a) Construct a *Processing* sketch laying out three circles of radius 10 pixels equally spaced around a circle itself with a radius of 100 pixels; something like the picture below:

   (b) Adapt your sketch so that the design drawn is of n (a small integer) circles equally-spaced around the larger circle, where n is a parameter adjustable by the user of your sketch – either when the sketch is started, or interactively (for example using the '+' and '-' keys). Check that the behaviour for $n = 1$ and $n = 2$ is sensible (you might want to prevent the user from setting n below 1 or above about 10).

   (c) Now alter your sketch so that only one of the circles is visible at a time, each in turn in successive frames. Set the frame rate to be about two frames a second, run your sketch, and describe what you see. How does your description change if you increase or decrease the number of circle positions? What about increasing or decreasing the frame rate?

   (d) Alter your sketch once again, this time so that all but one of the circles are visible in each frame, again with the one not visible being at each position in turn in successive frames. Set the frame rate to be about ten frames a second, run your sketch, and describe what you see. Again, vary the number of circle positions and the frame rate and see if your description changes.

2. This part of the lab directs your attention to stimuli illustrating aspects of Gestalt grouping perception.

   (a) The lecture slides listed a number of examples of Gestalt grouping principles, and gave example designs illustrating those principles. Choose one of the principles and designs, and write a *Processing* sketch to reproduce the design.

   (b) Alter your sketch so that the degree of difference in the design can be adjusted interactively by the user. Experiment with your sketch to see how much it can be perturbed before the grouping percept is no longer strong.

   (c) Repeat parts 2a and 2b for the other Gestalt principles described in the lectures.

Further Reading:

- Steinman, R. M., Z. Pizlo, & F.J. Pizlo. *Phi is not beta, and why Wertheimer's discovery launched the Gestalt revolution: a minireview* (2000). Vision Research, 40, 2257–2264.

- Magni-Phi website. `http://www.psych.purdue.edu/Magniphi/`