# "Yellow Mondays" – a spatialised granular swarm

A work designed for En Red O-2003.  LocAlgSon.  November 2003.

By Nick Mariette
Australian, living in Sydney
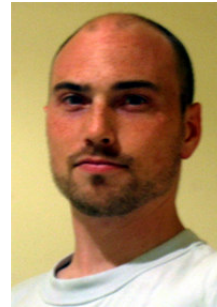43a Edward St
Darlington NSW 2008
Australia
Ph: +61 2 9310 4651
Mobile: +61 402 843 634
nmariette@myrealbox.com
http://edstreet.customer.netspace.net.au

Summary

Named after an Australian cicada, Yellow Mondays auralises a swarm of spatialised sound granules that jump about in physical space and across other parameters.  The grains begin as a disorganized, spatially distributed cloud and move over time as a group until they cluster around a fixed location at which point they spontaneously scatter again and continue the cycle.

Statement describing the process

At the heart of this patch is the "PSO" object that simulates a swarm of particles that follow and home in on a user-controlled lead particle.  This object has been used to control a granular synthesis process that spatialises grains individually using Vector Based Amplitude Panning.  Algorithmically, the patch simply hops about in space at random, taking some time between hops for the swarm to catch the lead particle.  Some refinements include a change of parameter routing every 8 hops, and ramping of some other parameters.  The underlying sound sample is a recording of damaged CD skips, used for its frequency-rich glitched timbre.  It is interesting to try the patch with other sound samples to appreciate the effect of the patch on the underlying sound.

Directions for installation and running

Unzip the contents of the package into a sub-folder of the PD folder.  Load the patch called "yellow-mondays.pd".  The patch will begin automatically with a volume fade-in.  There are various controls available within the patch and subpatches, but there is no need to touch any of them for the automatic performance.  It is preferable to run pd.exe in real-time mode using Windows Task Manager to change the process priority.

Listening

There are no special listening instructions.  The work will continue producing audio indefinitely until the patch is muted or closed.

Brief Bio of the creator

Nick Mariette is a Sydney-based DSP engineer with years of experience in software and system design for spatial audio.  Nick has also long held a keen interest in electronic music and for years he has experimented with new techniques in audio synthesis and sound design using a very diverse range of software and other instruments.  Since 2001, Nick has worked with the Pure Data software DSP environment to prototype novel audio effects.


Credits

Patch concept, design and sound sample by Nick Mariette – contact details on first page.

The patch also uses:
- "pso" Particle Swarm Optimizer object by Ben Bogart – ben@ekran.org http://www.ekran.org/ben/research/pso
- Granular synthesis patch by Nick Mariette
- Vector Based Amplitude Panning (VBAP) external by Juha Vehviläinen made available from Olaf Matthes' website – http://www.akustische-kunst.org/puredata/vbap/index.html (VBAP originally by Ville Pulkki – http://www.acoustics.hut.fi/research/abstracts/vbap.html)
- iemlib by Thomas Musil – musil@iem.at
- zexy library by Iohannes M Zmoelnig – zmoelnig@iem.kug.ac.at
- Nqpoly patch by pix – pix@test.at – http://pix.test.at/pd/nqpoly/ modified by Nick Mariette to control polyphonic patches with 8 output channels
- Control signal smoothing abstraction by Thomas Grill – t.grill@gmx.net