The Neurally Controlled Animat

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What is an animat?

It's a computer simulated or robotic animal behaving in an environment

First Neurally-Controlled Animat was a culture interfaced with a simulated environment (Multi Electrode Arrays, MEA)

Who is behind this?

Dr. Steven Potter and the Potter Group (his Grad-Students) under the Laboratory for Neuroengineering

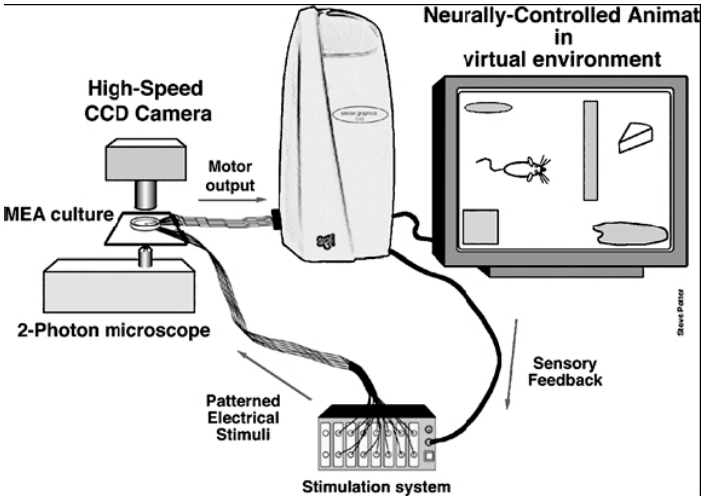
Dr. Potter received his PhD in Biological Sciences for his studies in the biochemistry of protein aging in mammalian brains

To create a method to study how information is processed and encoded in living cultured neural networks by interfacing them to the Animat, within a computer

This process is being used in the study of the learning process and memory of mammals within the confines of a laboratoryA network of hundreds or thousands of dissociated mammalian cortical cells (neurons and glia) is cultured on a transparent MEA.

Their activity is recorded extracellularly to control the behavior of an animat within a simulated environment.

Sensory input to the Animat is translated into patterns of electrical stimuli sent back into the network.



Cellular artwork?

It's called Multi Electrode Array Art! The "brain" and "body" talk through the internet over TCP/IP in real time providing closed loop communication for a neurally controlled 'semi-living artist'. Scientists do not view these drawings as the cultured brains learning, but more that the patterns drawn represent different patterns of neural activity**References**

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