Millennium Technical Report 9601; University of Sussex Technical Report CSRP434

for synthetic autonomous agents that inhabit a 3D world with realistic kinematics. There is also a large body of work on learning in artificial neural networks (see e.g. Rumelhart and McClelland 1986).

## **2.2 Other Relevant Entertainment Products**

Publications in the scientific literature

through their life. The life-span of each creature is genetically influenced: if a creature manages to survive to old age (measured in game-hours) then senescence genes may become active, killing the creature. The creature has simulated senses of sight, sound, and touch. All are modeled using semi-s



Figure 5: Brain Model

Attention. Some of the neural circuits are devoted to relatively minor tasks. For example, two lobes are used to implement an **a**i

not actually necessary or compulsory within digital organisms, yet which would be expected by the general public. For example a simple metabolic system is simulated based on the following reactions:

starch rightarrow

*Creatures* than when using the other products mentioned in Section 2.2. Furthermore, if we assume that each user runs 5 to 10 creatures at a time, then a