

To: Ian Saunter

From: Steve Grand

16th November 1992

Here's a brief summary of the things I'd been thinking about during the week - I think it's remarkably close to what you thought up. I've also been thinking about neural net designs, and I'm getting somewhere towards a system that can do what I need of it, and could maybe be useful in the future too.



Little Computer Ewoks

Scenario

A small, woodland community, previously inhabited by petite, furry creatures (Ewoks, for want of a better name). A great disease has wiped out all the adult population, and all that remains when the user arrives on the scene is a small group (say six to ten) of baby Ewoks, able to crawl, but unable to fend for themselves. (Maybe this isn't right in detail, maybe there should be representatives of all ages, but having only infants allows the whole game to evolve over time, as they grow older. It also casts you in the role of 'nanny', which has a lot of scope.)

Objectives

No conventional 'game' whatsoever. The user's object is merely to interfere in the Ewok world as he sees fit, although if he doesn't do something constructive, the Ewok babies will soon die. The general aim is to protect and care for the Ewoks as they grow up: learning about their physiological and mental make-up, fending for them, curing their diseases, teaching them to fend for themselves, correcting their later adolescent aberrations and generally mucking about with them to see what happens.

Interaction

No direct interaction with Ewoks is allowed. Instead, the user interacts with the world itself, using a mouse (something like Cosmic Osmo). Positioning the mouse over a part of an object changes the cursor into a relevant shape. Dragging or clicking with that cursor either moves the object, opens it, or applies it to an Ewok. For example, the village contains a hospital - clicking on an EEG machine produces a pair of electrodes, which can be dragged and dropped onto a sick Ewok, to enable the user to monitor that Ewok's brainwaves (neural net) on a pop-up window or maybe on the machine's

own display. Much of the fun therefore comes from discovering what objects in the world can be interacted with, what you can make them do and what effect this has on the Ewoks.

Viewpoint

The view is top-down, on a fairly large scale. Movement and scrolling are eight-way. Graphics are 16-colour, hi-res. Bump-scrolling is used for movement, though maybe a menu option allows you to follow an Ewok automatically. Landscape tiles are large & detailed, each consisting of a sprite or sprites, plus a more detailed map of the whereabouts of obstructions, active points, etc. Landscape tiles & Ewok sprites are cached from disc, allowing a massive library of styles. Use of EMS (or protected mode 386) reduces disc accesses for those with better machines.

Landscape

The map is fairly large, though most activity is strongly localised in the village (within a tree stump, perhaps) - outside this is a larger area where Ewoks can forage for food when they're old enough to be safely let out. The outside world might contain predators, etc. Objects use 'woodland technology', ie. they are modern in function, but quaint in appearance.

Some interesting locations

- a hospital: this is where you can a) look after sick Ewoks, and b) do physiological studies to learn how Ewoks function and what the available drugs do to them. Objects include ECG and EEG, drugs (herbal), a bed, dissecting equipment!?! , de-fibrillator, etc.
- a schoolroom: in here, you can try to educate young Ewoks using simple infant-school-style apparatus, eg. build conditioned-learning setups, with rewards & punishments, or just give them a big piece of paper to draw on.
- a leisure area: Ewoks are naturally hedonistic, and will spend large amounts of time floating around the pool & chatting in the jaccuzzi, once they're old enough and unless you rule them with an iron hand (or pull the plug out of the pool).
- a library: where you can pick up books on Ewok History, Science, etc. (in Ewokese, of course, but with pictures too).

Ewoks

Ewoks should be cute, cuddly and furry but somewhat bizarre; the sort of thing Jim Henson would have designed. They should be a little manic, like a chipmunk, and also extremely hedonistic and lazy. Their intelligence should be low, but they should be capable of relatively complex sequences of actions. Trying to look after Ewoks should feel like trying to stuff a dozen squirrels into a sack.

I see them wearing clothes; perhaps nappies at first, but other things later when they've learned to walk - looking rather like PG-Tips chimps.

Each Ewok contains:-

a neural network

This controls their decision-making, and their general response to environmental changes.

a memory

Ideally, this would be a consequence of the existence of the network, but to be practical I think we'd need a separate structure for this - needs more thought. Either way, Ewoks need to have a proper sense of their own past - something lacking from the Lilliput engine.

an action schema engine

Like Lilliput's rulebase system, or possibly a new net-like design. A way of carrying out complex sequences of actions embarked upon as a result of a decision in the net.

Complex physiology

Controlling heart rate, breathing rate, hormone concentrations, etc. Ability to catch & transmit diseases realistically. Sensible reactions to drugs/food. Feedback from & to brain (moods, needs, etc.).