My Uncle John invited us to Members’ Night at the Zoo. He's been a member for 25 years and wants us to see their new Baboon Exhibit which replaced the old Monkey House. My two kids, both teens, aren't too excited about going to the old zoo instead of the mall, but they like Uncle John and agree to humour him with a boys' evening out. None of us has been to the Zoo for quite a few years, but thanks to Uncle John, they’re both nature nuts.

On the 'Zoo-Run' bus from the Transit Mall, the kids immediately link their new HM2C hand-held microcomputer 'Handies' to the bus wireless connection and to see what's new at the zoo. The presentation is really geared to a broad audience so we all enjoy getting prepared. These gyro-hybrid buses are popular as they also take prams, wheelchairs and bicycles.

There's old Uncle John waiting impatiently at the entrance. Great zoo enthusiast that he is, he eagerly begins pointing out how things have changed over the years. First there is the new smaller car park shaded by a canopy of solar panels, like large leaves on a grape arbour. This was donated as a demonstration project by the local utility company.

After he swipes his membership card (instantly covering all fees and purchases at the zoo including the VIP Info-Tech Tour pass code) and we step inside, he points out that the large heritage trees, which had been the pride of the park twenty-five years ago, had gradually succumbed to the drought. They have been replaced with native desert species like the mulga, ghost gum, she-oak and a beautiful desert palm grove. This is certainly a big improve-

As I glance around admiring the new plantings, something seems to be missing – Bird Lake. Uncle John points out that the lake, which had been the centre of the zoo, is another drought victim. The
lake is now an underground reservoir where rain water from the car park and all roof areas is saved. The entry, event plaza and desert gardens where we are standing cover the reservoir. In fact, all new zoo buildings are built under terraced desert gardens. The new buildings are insulated by the soil and the plants capture CO₂, produce oxygen and reduce albedo. Uncle John likes technical talk. The boys miss most of this, but are attracted immediately when he mentions the new musical groups that are scheduled for the plaza in the coming summer evenings.

As we head for the new exhibit Mick asks, "Where are the elephants?"

Graham, the older boy recalls, "Weren't they moved out to the Safari Park? That was a good idea, wasn't it?"

Uncle John responds, "Yes, moving the elephants caused a lot of controversy, but it was best for the animals. Now they have fifty hectares to share with elephants from three other city zoos. The hippos, rhinos and giraffes were also relocated. The elephants are so happy to be in a large herd that they are breeding and producing calves every two years."

A small giggle escapes the boys as they picture this.

The zoo is still adapting to the warmer, dryer climate and to severe new restrictions on animal imports and exports. "The new exhibits we'll see tonight, along with the entry, are the first projects designed for these new conditions," Uncle John explains. "The remainder of the zoo is still a work in progress."

"Wow, there it is!"

And indeed the towering rock formation rising from the desert acacia is clearly from Africa. My younger son Mick's forgotten he didn't want to come and excitedly points out baboons and wild goats resting in the shade of some over-hanging rocks. A pleased Uncle John describes how the artificial rock formation was designed like huge, passive solar furniture, collecting warmth in winter and providing shady overviews for the animals all summer. "What baboons like most," explains Uncle John "is a great view with lots of other baboons around. They feel safe and connected."

"Yeah, like being at the mall!" exclaims Mick.

Graham asks, "Is this what Africa is like...with thick, thorny scrub bush?"

"Oh yes," responds Uncle John. "You're right. They've also had drought there because of global warming.

The areas approaching the Safari Lodge and around the baboon exhibit were designed in the fifty year old 'immersion mode,' like going on a safari in Africa, but with lots of software upgrades. A red-billed hornbill flies passed. "He's learned to make a circuit of feeding stations. Simple A to B training," he cryptically adds and, seeing no one is listening, leaves it at that.

"Will the Handies work here," Mick asks.

"Give them a try," I suggest.

"Wow, look at this!" Graham's Handie shows our location on a zoo map, path options to the various exhibits in this area and to other zoo attractions. "We can learn about hornbills, kopje rocks, local tribes, rock art, even pre-humans" he reports. "Good wireless tech."

We approach an overlook and Graham describes...
more information options available through his Handie, "We can find the alpha baboon, check out what he's done through the day, locate all the troop members or read up on their individual histories." As we near the fan-cooled shady hut at the overlook he goes on, "We can also run remote cameras...Hey, check this out!" The HD monitor comes to life as we enter with the same images Graham calls for from his Handie by controlling remote, telephoto cameras. Suddenly the alpha male is life-size, every hair on his magnificent brow clearly visible, as is the glint in his deep-set eyes. Graham pans the camera and there below are four small human figures. This is how the baboon sees us! He is king of his mountain.

We amble on with the excited boys trying out some baboon moves. The shade of the baobab trees and date palms looks truly inviting in the lingering afternoon heat as we approach the Safari Lodge. Under the big round thatch veranda and inside the building itself, there are colonial-era ceiling fans to keep the air moving. Around one side are windows into the baboon's world. Behind the bar, in a deeply shaded grotto a leopard plays with her cubs. Over the bar, like a sports bar, are HD flat screen videos of the leopard in action. Marvellous!

Our dinner booking isn't for forty minutes so we continue exploring. In the centre of the lounge there's a pavilion extending into the baboon area. Here is another side to baboon life...baboons playing computer games with visitors, competing in finger-maze dexterity contests and showing their amazing adaptability. "Having evolved to survive the vicissitudes of desert life, baboons have intelligence and physical skills in abundance to handle simple tasks like human games! The idea," Uncle John goes on, "is to showcase the animal's competence and adaptability not just in the past, but in the future as well.

"Some people objected; this was 'unnatural'," Uncle John explains, "but we thought that was a backward-looking view, and we must focus on the future, when wildlife and people must reach peaceful coexistence or even symbiosis. It is also essential to provide the monkeys with challenges to maintain their mental and physical fitness and to give them choices in what THEY want to do!"

"But what do baboons want to do?" inquires Mick. "Youngsters like to play, explore and test their strength and courage. They like to interact with zoo visitors," Uncle John explains. "Older monkeys like to socialize and rest from the heat."

"Baboons like to control their environment not only by moving into the sun or shade, but also by activating fans and heaters. They can turn lights on or off using motion detection hardware. They can stay outside in the more natural areas or come inside to play these games; it's their choice. All the animals have microchips embedded under their skin to identify them. In the new exhibits a system of reading devices recognizes the presence of each animal and what built-in features it can control. For example, a diabetic baboon gets her medicine in snacks available only to her. Other readers allow free access to holding areas to

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6 Information on new applications of microchips in “automated enrichment systems” is the thesis subject of Ms. Julia Hoy, j.hoy@uq.edu.au.
some animals that may need it. The dominate male
has other special options, appropriate to his status
and preferences. When you add up all the choices
available to all the animals it is as if the monkeys run
the monkey house!7
"That means," ob-
serves Graham,
"the monkey's
microchip
helps the mon-
key the same
way my Handie
helps me."8
"That right,"
laughs Uncle John,
"this new technology
gives both you and the ba-
boons a lot more choices to do
what you want in your own way...a lot more free-
dom."

A nearby graphic explains how the same sys-
tems help the Zoo's research program by tracing
each animal's movement and activities, even record-
ing things like body temperature and levels of cer-
tain hormones. For example, keepers would know
if an animal was stressed. Scientists can compare
this data with surveillance videos and have a good
record of behaviour. This can then be used to evalu-
ate and improve conditions for the animals.

Uncle John explains, "Miniature measuring de-
vices are also being used by volunteers to measure
the effects of the new exhibits and animal encoun-
ters on their own heart rates and other signs of ex-
citement.9 This data is really helping us evaluate
new exhibits."

We watch as a keeper trains a new male leop-
ard.9 Further away, the baboons also watch with
interest. Working through protective mesh and us-
ing simple tools like a slender rod, a whistle and food
treats, she helps the leopard learn how to activate
his own environmental and enrichment systems.
Judging from the number of other visitors watching
this training, it is a popular exhibit in itself. And the
leopard's keenness suggests it too is enjoying itself.

The exhibits in the Lodge are amazingly diverse
with the next HD plasma screens allowing us to
explore down ant tunnels and check out the thermal
world of agama lizards and pit vipers. There is just
so much to see that we must hustle off to our dinner
booking.

We enjoy al fresco barbie on the terrace over-
looking the granite kopje. The baboons, in orderly
files, move off to their night quarters as the sun sets.

Then, in the last streaks of sunlight a leopard ap-
ppears. It leaps gracefully from rock-to-rock look-
ing for lingering baboons or mongoose, descends to
a rock pool for a drink and then bounds to the cliff
top to view the surrounding countryside. The evening
comes alive with a new set of animals. An eagle
owl glides silently over the terrace and bushbaby
and hyrax call in the distance.

After dinner in the
cool of the evening, we
walk through the new
Australian Bush Trail to
take in a campfire story
time. Along the trail
we hear rustlings and
glimpse small marsupi-
als, potoroos and
pademelons, feeding all
around us. A soft glow
of light (invisible to the
animals) follows them
around. Again the
Handies come out as the boys query the Zoo website
to identify these quiet night creatures. Solar pow-
ered, trailside graphics provide a similar interactive
service. Each small animal's microchip communi-
cates to hidden devices to be sure the website in-
formation available covers the animals visible at the
time. The readers also assure that each creature
gets the amount and type of nutrition it needs and
no more as it travels throughout the area.

We join a circle of visitors in a grove of river red
gum and are greeted by the striking figures of an
Aboriginal Elder and his dance group. Using tra-
tional dance and singing, augmented with subtle pro-
jections on mist curtains, the grove comes alive with
adventures and lessons shared by the local Tradi-
tional Owners. We begin to experience how land
and people blend and are one and inseparable. Bats
dart in and out and later owls fly softly among the
dancers. Dingos join in the singing. Possums come
to watch from the trees with solemn round eyes.
After this memorable experience we walk quietly
back through the bush, past pademelons and quick
bandicoots. The boys are unusually quiet, perhaps
more 'in tune' with the bush then they were on the
way in.
As we board the Zoo-Run bus to go back to the ever more crowded suburbs, Uncle John, always the 'professor', summarizes the changes the zoo has made in the last twenty years.

"First," he begins, "the zoo had to come to terms with the big issues of global warming, drought, and animal import restrictions. They had no choice. They needed to be a leader in the fields of water recycling, local power generation and sensible power use. The Zoo has become a good community example instead of the big power and water consumer it was in the past."

"The Zoo had to decide what was best for the animals in their care and what was best for each species' future; that they were responsible for the animals and not vice versa. This wasn't easy. Then with the help of their national organization, ARAZPA, they came up with ways to work with other zoos specializing in other new climate areas so each zoo specialized in animals, native and exotic, best suited to its area and expertise. You can understand how this lead to the elephants moving out to the big Safari Park for example."

"Zoos used to depend upon their big, popular animals for financial survival. Now today's better educated audience is discovering that with exciting displays and marketing, getting close to animals like baboons and pademelons can be just as interesting as the 'big-name' animal attractions of the past."

"Of course, the new electronics help a lot. People can see animals in new exciting ways."

"Faced with multiple major challenges, the zoo began to think more holistically. They integrated fund raising for both construction and long-term operation. This will insure animal enrichment and hi-tech information programs will be properly maintained and upgrade."

"Perhaps the biggest breakthrough, and one of the most challenging, was to allow the animals to take more care of themselves. Keepers were used to doing everything for the animals, whether the animals needed it or not. Now the animals can decide when and what to eat within a dietician's outline; who they want to be with and what they want to do. Hormone studies show that giving choices reduces stress and we believe it helps individual animals develop self-confidence and become more effective and less dependent, thus expressing their true natures while successfully adapting to changing times."

"Yes, it was a good idea to let the monkeys run this new kind of monkey house."